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CHRONIC INTESTINAL STASIS—FLUOROSCOPIC AND X-RAY DIAGNOSIS IN THE LIGHT OF OPERATIVE FINDINGS—WITH ILLUSTRATIVE CASES.*

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A distinguished pathologist, in discussing the work and views of Sir W. Arbuthnot Lane with reference to chronic intestinal stasis, asks the question: "Is Sir Arbuthnot Lane justified in his teachings, or is he the victim of an obsession?"

"If his teaching be false it will die," says another, "if it be true it will form a landmark in the surgery of the twentieth century!"

Again, after having verified many of Lane's findings, another of his countrymen announces that he is "traveling hopefully."

From indifference to ridicule, from curiosity to earnest attention, the majority of surgeons who have given ear to Lane's views at all, have passed. A few have persistently followed his lead, and have sincerely endeavored to test his theories by actual experience, believing from the first that he had opened up a new and fruitful field of endeavor. Internists, gastro-enterologists, surgeons, and Roentgenologists have united in the determined effort to decide whether these teachings shall die, or whether the surgery of the twentieth century shall be revolutionized, in a measure, in accordance with Lane's views.

In this general effort the Roentgenologist has played a conspicuous part, and has rendered valuable service in the matter of making and verifying diagnoses. The splendid work of Jordan, in this connection, is doubtless familiar to all. It has served, in a measure, as a model

for others who are working in this difficult field—for it cannot be denied that the gastro-intestinal tract is a difficult field for the radiologist. How well they have succeeded has been expressed recently by members of this specialty, as follows:¹ "It was the X-Ray used after the administration of a bismuth meal, that finally unlocked the door to a positive and scientific knowledge of the action of the alimentary canal." They also quote the familiar statement from Keen's System of Surgery (Sixth Edition): "The actual size and shape of the stomach, as known to the pre-Roentgen anatomists, or its motor functions and peristaltic activity, as known to pre-Roentgen physiologists, were almost as inaccurate as the map of Europe before Columbus proved the earth was spherical. The Roentgenologist who has repeatedly watched the behavior of a bismuth meal in its passage through the alimentary canal has a far more accurate idea of the normal processes of digestion than had the best pre-Roentgen clinician."

Such statements apply, with absolute justice, to radiographic work of high quality. X-Ray and fluoroscopic examinations carefully executed and properly interpreted, are of great value, and surgeon and Roentgenologist should co-operate in increasing skill in execution and interpretation. For it is equally true that unless radiographic examinations of the alimentary canal be made with an accurate understanding of the requirements of this particular part of the anatomy, and unless they be intelligently interpreted, they are of practically no value, and the surgeon who depends upon them for a guide as to whether to operate or not to operate will find himself falling into many difficulties.

Undoubtedly the most expert work accomplished in this direction is that of Alfred C. Jordan, of London, who has been associated with Sir Arbuthnot Lane in so much of the latter's investigation of the subject of chronic intestinal stasis. Jordan's success in this line

*Read, in part, by invitation, before the American Roentgen Ray Society, at Cleveland, Ohio, September 9, 1914, and before the M.S.M.S., Lansing, Mich., September 11, 1914.

1. Boggs and Foster, International Journal of Surgery, April, 1914.

has been attributable in large measure to the fact that he has gone over his plates, made before operation, at the operating table, comparing step by step his fluoroscopic and radiographic findings with conditions actually found during operation. By checking up his errors in this way he has been able to better guard against them. He has thus developed the ability to make negative as well as positive diagnoses. Those who, like Jordan, are willing to devote the time and patience required in this checking-up method, will find a certain sense of security in their work that it must be difficult to acquire by confining one's effort to the X-Ray laboratory. Such work, I fancy, will dispel forever the possibility of our following the will-of-the-wisp which the distinguished pathologist (Adami) has inferentially designated an obsession.

However, it is not the purpose of this brief communication to discuss the merits or demerits of Lane's theories concerning chronic intestinal stasis. I think we may dismiss, for the present, as proved, his contention that adventitious bands *do* form about certain portions of the gastrointestinal tract, that they may cause kinking of the gut at points of fixation, and that the immediate results of this state of affairs is often a slowing of the contents of the great drainage canal—a condition to which he has applied the term chronic intestinal stasis, with a long chain of symptoms which can be best explained by a toxic condition resulting from an absorption of poisons from the intestinal tract. If there is still a doubt in the minds of those who are studying the matter, I feel sure that the checking-up method of study alluded to, in which surgeon and radiologist co-operate at the operating table, will go far toward dispelling such doubts.

It is necessary, first, however, for both surgeon and radiologist to understand perfectly the mechanics of the great drainage scheme of the body. All this has been so clearly detailed in papers by Lane and his students that I need not take time here to discuss the matter. One point, however, I wish again to reiterate, namely, that in searching for kinks in the gut it must be borne in mind, by radiologist as well as surgeon, that there is a difference in the relationships of the intestines when the patient is in the erect and in the prone position upon the back. In the upright posture there is, as all know, a tendency to a greater or less degree of general ptosis of the hollow viscera, and that it is this falling of the viscera which causes the

strain on the points along the course of the drainage canal at which the lines of stress and strain have crystallized into definite bands. In the prone position, as on the operating table, this ptosis is temporarily overcome, of course, and no kink is visible upon superficial examination, no matter how definite it may be when the individual is in the upright position. By lifting up the bowel the kink comes into view. This is just the reason why the radiologist should study his subjects in both positions, and at the operating table.

It is important, as Lane and Jordan have so often repeated, that the alimentary tract be regarded as a whole, that its diseases should not be regarded as "isolated phenomena," but that local manifestations along its course and in accessory organs be regarded as expressions of a general disorder. As we all know, Lane maintains that many diseases, such as gastric ulcer, cancer, gall-stones, rheumatoid arthritis, and others, are the remote results of chronic intestinal stasis. This theory forms an important part of the "obsession" which the great pioneer is supposed by some to harbor. It is not the purpose of this communication to attempt to prove or disprove this theory. There seems, however, to be much food for thought just here, as some of the cases which I shall presently show, will demonstrate. According to Jordan, "the general disease at the bottom of the case can always be revealed by a complete radiological investigation of the alimentary system," and it is just this contention which, it seems to me, should stimulate radiologists to make careful and painstaking investigations along the lines laid down by Lane and Jordan.

In this connection I wish to emphasize the importance of the fluoroscopic examination in all cases. "X-Ray diagnosis after a bismuth meal," according to Jordan, "depends entirely upon observations with the fluorescent screen. It is all-important to watch the movements accompanying respiration, the peristaltic activities of the different parts, and to ascertain the presence of fixed parts, (e. g., in the terminal ileum) and of thickened parts (terminal ileum, appendix, iliac colon, etc.) by direct manipulation under the fluorescent screen. The patient must, therefore, be as accessible to the observer as he would be to the surgeon about to operate upon him." "In commencing the investigation," he continues, "we gain an important clue at the first examination when we observe the duodenum. This is without doubt, the most sensitive part of the alimentary tract; even the early

stages of intestinal stasis produce their inevitable effect upon the duodenum which becomes distended from obstruction (by kinking) at the commencement of the jejunum. The difficulty this kink causes the duodenum is obvious when the duodenum is observed (by fluorescent screen) full of bismuth emulsion. In the first place the duodenum is obviously enlarged; its vertical portion measures four or five inches instead of two and three-fourths to three and one-fourth inches as in normal cases. The width of the duodenum is often double that of the normal, the first part of the duodenum being especially dilated. More remarkable by far than the increased size is the altered behaviour of the 'static' duodenum. It is exceedingly active, strong waves following one another along the four parts of the duodenum, and thrusting the contents before them. The strong waves are not effective, however; the contents get no farther than the third or fourth part of the duodenum; and as the wave passes off the whole of the contents flow back rapidly to the second (vertical) part. This event is often seen to recur over and over again, and for ten minutes or more no bismuth will enter the jejunum; then perhaps a peristaltic wave will come more powerful than any, and a full measure of bismuth fluid will enter the jejunum, the kink having been overcome for the moment. So powerful are the efforts of the 'static' duodenum that the entire organ gets distorted into various forms, giving the appearance of 'writhing.' Thus, Jordan says, "The radiologist can demonstrate not only the end result (such as a gastric or duodenal ulcer) but also the various manifestations due to stasis itself. They should make any surgeon think twice before he decides to be content with the old order of things."

I have quoted these statements from Jordan, who has had a wider experience, having worked with Lane for so long, than perhaps any other radiologist has had in the study of the particular conditions under discussion, because I wish, in so far as I am able, to encourage this kind of work. I have frequently noted the tendency of the X-Ray worker to become discouraged after a few fruitless attempts at diagnosing conditions involving the alimentary tract. The wonderful success which Jordan and those who have persisted have attained should encourage others to renewed determination.

In this connection I wish to express my sincere appreciation of the careful and painstaking

work which Dr. Quimby, Dr. Cole, and others, have been doing in this direction. I have purposely selected for presentation on this occasion cases in each of which Dr. Quimby has made the fluoroscopic and radiographic examinations. He has presented the radiographic phase of these cases, showing the findings before operation, as revealed by fluoroscopic and X-Ray examinations. By reference to his findings the operative findings may be tallied with them. This is another manner of presenting the checking-up method and is adopted largely for the purpose of stimulating interest in this comparative plan of study.

I may explain, in passing, how the drawings, from which my lantern slides are prepared, are made. In the first place, I try to have a stenographer present in the operating room, to whom are dictated the findings. The medical illustrator makes a rough sketch of the conditions found, just as they appear to him or her at the operation. It requires only a few minutes for the surgeon to demonstrate these to the artist, who is skilled in this kind of work. The findings are then checked up by the assistants, and sometimes by visiting surgeons. From this operating-room sketch the artist builds up the drawings, with the assistance of the stenographer's notes, the checkings of the assistants, and the findings of the surgeon. Each picture is, therefore, an accurate interpretation of conditions as actually found upon the operating table.

It is obviously difficult, however, to put into each picture every phase of the pathological condition. Therefore, for purposes of clarity, without the sacrifice of accuracy, each picture emphasizes some special point or points.

What has been said with reference to the difficulty of portraying in a single picture every phase of the pathological condition found in a given case, applies equally to the X-Ray plates. Many plates would be required for such a complete demonstration.

For the above reasons, all the findings shown in the drawings may not be represented in the X-Ray plate or plates of the same patient, yet the features in which the operative findings shown corroborate the radiographic findings are quite sufficient to establish the importance of the X-Ray as an aid to diagnosis in cases of presumptive chronic intestinal stasis.

In the following cases I have purposely omitted the general history, the treatment, the immediate and remote results, our only concern here being a comparison of the radiographic

and fluoroscopic with the operative findings.

An inspection of both the operative findings and the artist's sketches should be made to obtain a proper conception of conditions found within the abdomen at operation, and these

should be compared with the Roentgenographic findings to get full confirmation of the value of the X-Rays when preoperative determinations are made.

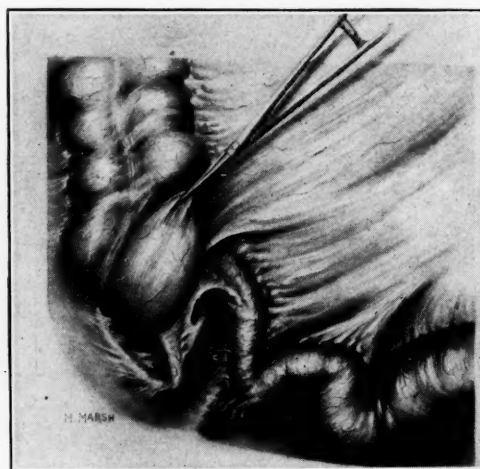
CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
<p>No. I. C. Male, 41.</p> <p>Referred by Dr. J. Douglas Nisbet, New York City</p> <p>Operation, N. Y. Polyclinic Hospital, April 24, 1914.</p>	<p>Gastric delay of mild degree, due to interference in duodenum, pronounced only when patient was in erect position. Pyloric ulcer.</p> <p>Evidence of small mucous ulcer in first portion of duodenum.</p> <p>Chronic appendicitis; appendix kinked near its tip.</p> <p>Patulous ileocecal valve.</p> <p>Angulation in right transverse colon, due to a loosely formed membrane binding the hepatic angle.</p> <p>Acute angulation of splenic flexure. Evidence of a membrane binding pelvic sigmoid.</p> <p>General appearance of structures occupying lower right abdomen indicates probability of "Jackson's membrane" incompletely formed and interfering with various structures.</p>	<p>Stomach prolapsed and enlarged, but no evidence of ulcer on either stomach or duodenum, as determined by palpation and inspection.²</p> <p>Appendix angulated, congested and bound tightly to pelvis; filled with fecal matter.</p> <p>Patulous ileocecal valve.</p> <p>Cecum and part of ascending colon attached by band to iliac fossa on lateral wall.</p> <p>Terminal ileum and head of colon bound tightly to brim of pelvis.</p> <p>Accentuated last kink of sigmoid, with angulating band of adhesions.</p> <p>Colon dilated above and colon and rectum below.</p>

2. A mucous ulcer may be present and not seen by the operator unless stomach or intestine be opened.



CASE I. Fig. 1-a.

- A. Descending colon.
- B. Band causing accentuation of "last kink."
- C. "Last kink," greatly accentuated.
- D. Rectum.

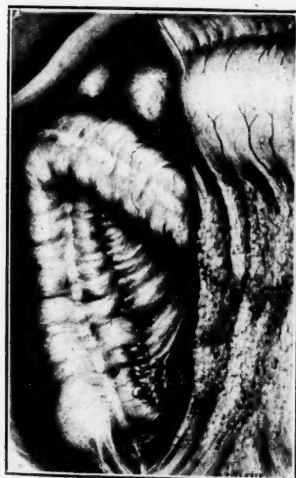


CASE I. Fig. 2-a. (At a higher level).

- A. Cecum.
- B. Forceps holding up caput coli, which had become dilated, forming a large flabby pouch.
- C. Angulated appendix, with bands.
- D. Constricted portion of terminal ileum, with tight attachment to pelvic wall.
- E. Lane's band (Ileopelvic band).
- F. Dilated ileum.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
<p>No. II. P. Male, 38.</p> <p>Referred by Dr. William Van Valzah Hayes, New York City.</p> <p>Operation, N. Y. Polyclinic Hospital, April 24, 1914.³</p>	<p>Examination, July, 1913.</p> <p>Gastric ulcer on lesser curvature near pylorus. Gastric delay which may be due to angulation of duodenum at juncture of the first and second portion. A Lane kink which is only operative in the erect position, there being no organic change or kink producing obstruction when the patient is horizontal. There is some regurgitation of the enema into the ileum. A chronic type of appendix, which may be adherent to the ilac mesentery. A loop in the descending colon, probably due to a mesenteric band. Redundant sigmoid.</p> <p>Partial examination, April, 1914, only of stomach and duodenum.</p> <p>Gastric ulcer, on lesser curvature, near pylorus.</p> <p>Angulation of duodenum.</p>	<p>Pylorus somewhat constricted, with slight induration on upper and posterior aspect, toward gastric side.</p> <p>Duodenum distended.</p> <p>Gastro-hepatic omentum considerably thickened at its free edge, over the foramen of Winslow; it was also shortened. Opposite this point on greater curvature was a thickened portion of great omentum which formed a band extending down to the cavum Retzii and to right iliac fossa, below appendix. Typical ileopelvic (Lane's band), very strong.</p> <p>Terminal ileum, caput coli, and angulated appendix tightly bound down by strong bands of adhesion.</p>

3. NOTE: This patient was examined by Dr. Alfred C. Jordan, in London, last year. On April 21, 1914, he saw the patient again, this time in my office, in consultation with me. At this time he examined the radiographic plates made by Dr. Quimby. Dr. Jordan said: "There is well marked distension of the duodenum, with tenderness to pressure. The terminal coil of the ileum is hypertrophied and feels like a cord. There is tenderness over this coil."



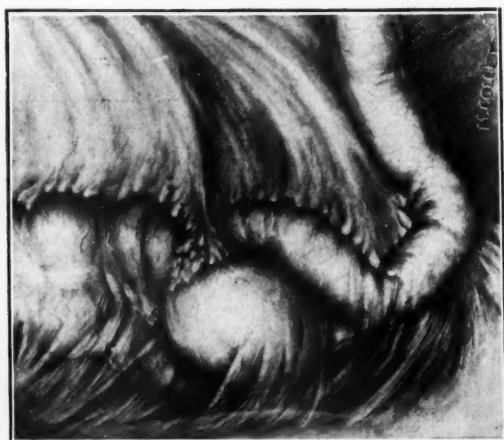
CASE II. Fig. 3-a.

- A. Gall-bladder.
- B. Dilated duodenum.
- C. Stomach.
- D. Great omentum, attached to upper and anterior surfaces of bladder, and to right iliac fossa.
- E. Bands about appendix and head of colon. (See Fig. 4-a for enlargement.)



CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
<p>No. III. F. Male, 40.</p> <p>Referred by Dr. William Van Valzah Hayes, New York City.</p> <p>Operation, Alston's Private Hospital, June 18, 1914.</p>	<p>Kinking of duodenum at juncture of first and second portions. Evidence of ulcer at this place. Moderate dilatation of duodenum.⁴</p> <p>Band constricting terminal ileum.</p> <p>Evidence of a loosely formed adhesion or band in right transverse colon; this does not seem to offer material obstruction.</p> <p>Kinking of sigmoid at juncture of iliac and pelvic portions.</p>	<p>No duodenal constriction.</p> <p>Ileum pulled down along-side of cecum, and adherent to pelvic floor.</p> <p>Cecum dilated, rotated and firmly adherent to lateral wall of pelvis.</p> <p>Sigmoid colon very redundant and angulated by adventitious kinking band.</p>

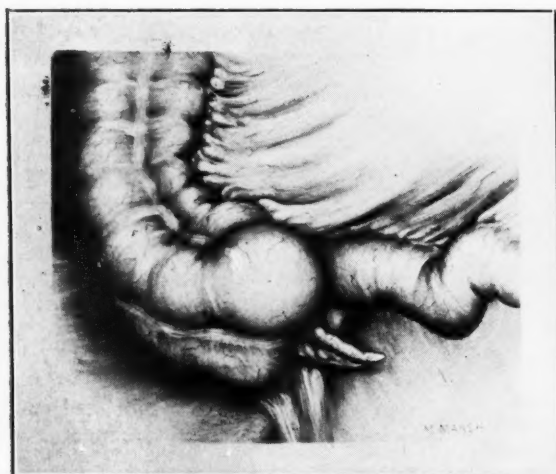
4. It is to be noted that a horizontal position often corrects a simple kink.



CASE III. Fig. 5-a.

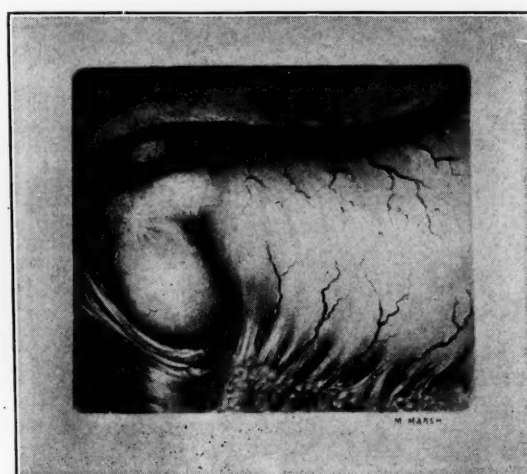
- A. Bands of adhesion attaching terminal ileum to posterior wall of right iliac fossa.
- B. "Jackson's membrane."
- C. Twisted caput coli attached to pelvic wall.
- D. Ileopelvic band. (When terminal ileum is allowed to drop into pelvis, as in upright posture, there is marked kinking at this point.)

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. IV. E. Male, 38. Operation, N. Y. Polyclinic Hospital, March 24, 1914.	<p>Evidence of adhesions of first portion of duodenum.</p> <p>Chronic appendicitis. While appendix readily drains, it is placed in an unfavorable position, especially when patient is erect. There is evidence that it is kinked.</p> <p>Loosely formed adhesions between ascending and transverse colon, producing an acute angulation in the latter portion of colon. A mesenteric band or a contracted mesentery just above iliac crest on ascending colon.</p> <p>Patulous ileocecal valve.</p> <p>There may be a band just above cecum.</p>	<p>Healed ulcer of duodenum $\frac{3}{4}$ in. beyond pyloric orifice.</p> <p>Below site of ulcer a number of bands extended from behind across duodenum, indenting it toward transverse colon and greater curvature of stomach.</p> <p>Transverse colon much collapsed. Hepatic flexure hung downward almost to umbilicus. Splenic flexures well supported.</p> <p>Mobile cecum; posterior band was anterior and below, forming an angle, around a fixed point at the base of the appendix. The mid-point of the appendix, which was five inches long, represented a band extending into pelvis, around which mobile cecum rotated.</p> <p>Patulous ileocecal valve.</p> <p>Dilated terminal ileum.</p> <p>Several adventitious bands about sigmoid.</p> <p>Ileopelvic (Lane's) band, with meso-appendix attached to it.</p>



CASE IV. Fig. 6-a.

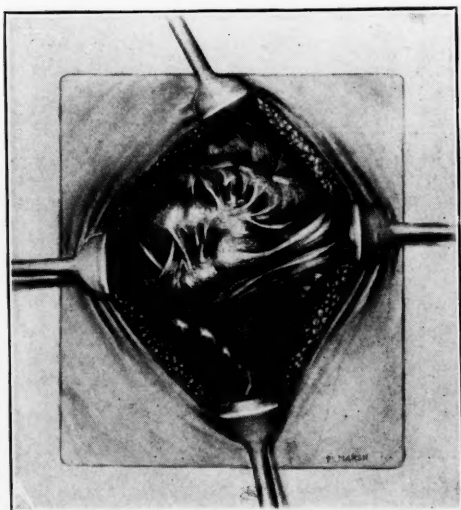
- A. Very strong ileopelvic (Lane's) band.
- B. Mobile cecum.
- C. Meso-appendix attached to Lane's band.
- D. Dilated terminal ileum, with patulous ileocecal valve.



CASE IV. Fig. 7-a.

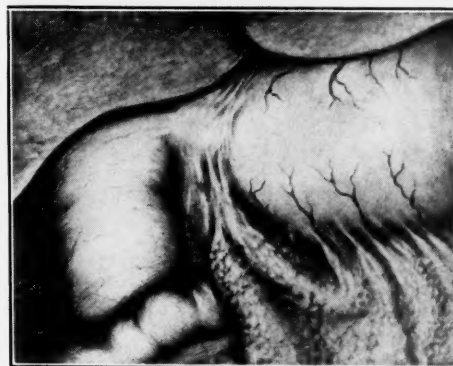
- A. Dilated duodenum.
- B. Band of constriction across duodenum.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. V. X. Female, 45. Operation, St. Elizabeth's Hospital.	<p>Ulcer near pylorus. Evidence of small diverticulum above lesser curvature; this did not remain constantly filled.</p> <p>Evidence of adhesions near apex of conus duodenalis.</p> <p>Appendix adherent and kinked near its middle; its position suggested that it was probably attached to ileum or its mesentery; it is of chronic or non-functionating type.</p> <p>Probably two mesenteric bands on ascending colon, one just above cecum, the other just below hepatic flexure. Probably loosely formed adhesion to left transverse colon.</p> <p>Pelvic sigmoid redundant and dilated. Rectum dilated.</p>	<p>Transverse and ascending colon adherent to anterior abdominal wall and to falciform ligament of liver.</p> <p>Ascending colon adherent to transverse colon by strong bands; ascending colon angulated on itself, and held tightly to the lateral wall, deep down in the abdomen, the angulation almost obstructing its lumen, about midway between hepatic flexures and ileocecal valve.</p> <p>Chronic appendicitis. Appendix free.</p> <p>On under surface of mesentery of ileum beginning ileopelvic band. Practically no hepatic flexure; transverse colon held up only by bands to anterior abdominal wall and by "Jackson's membrane."</p> <p>Duodenum greatly dilated, duodeno-jejunal kink below.</p> <p>Scar of old ulcer constricting pylorus with adhesions below, catching hold of great omentum and dragging it upwards. Ulcer scar on lesser curvature.</p> <p>Beginning evolutionary bands on under surface of mesentery of ileum.</p>



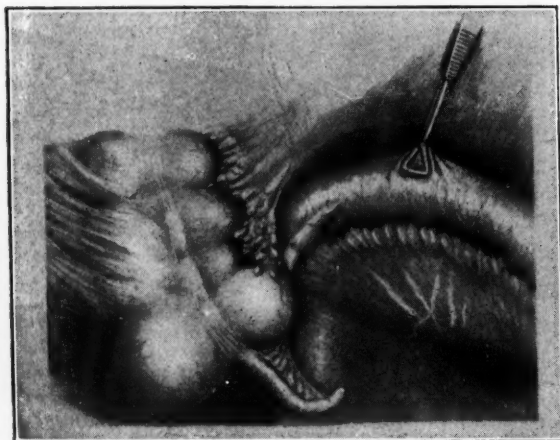
CASE V. Fig. 8-a.

- A. Ascending colon, angulated, with many adhesions.
- B. Adhesions from anterior abdominal wall to ascending colon.
- C. Transverse colon fastened by adhesions to kinked portion of ascending colon, near hepatic flexure.



CASE V. Fig. 9-a. After separating adhesions shown in Fig. 8-a the following conditions were found in right upper quadrant:

- A. Sites of old ulcers.
- B. Dilated duodenum.
- C. Edge of great omentum attached to pyloric scar.



CASE V. Fig. 9-b.

A. "Jackson's membrane."

B. White lines showing beginning lines of stress to form ileopelvic bands.

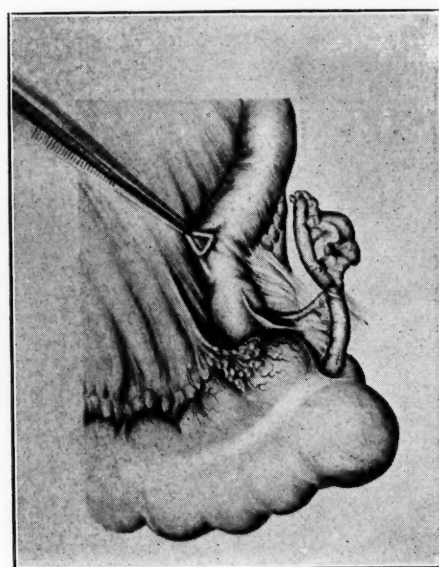
CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. VI. M. Male. Referred by Dr. H. M. Fleck, Bridgeport, Conn. Operation, N. Y. Polyclinic Hospital, Jan. 31, 1914.	Adhesions of pyloric end of stomach; these may involve first portion of duodenum. Ileal kink. Kinked appendix, presenting evidence of being adherent at tip; the kink is evidently due to a band or contracted portion of meso-appendix. Evidence of a few adhesions involving transverse colon.	Appendix, extending to left, large, distended with fecal matter, adherent at about its middle, where it was twisted, but not to the point of obstruction. Adhesions below ileum. Ileopelvic band. Omentum extensively adherent to under surface of liver and pyloric region. Mobile cecum.

CASE VI. Fig. 10-a.

A. Ileopelvic band.

B. Torsion of appendix, distended with fecal matter.

C. Mobile cecum.



CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. VII. M. Female, 27. Referred by Dr. L. C. Menger, Brooklyn, N. Y. Operation, Alston's Private Hospital, May 30, 1914.	Gastric delay due to kinking of duodenum. Ileal kink; this does not present all the characteristics of a simple Lane's kink. Appendix probably adherent at its tip, but a contracted meso-appendix may account for its fixation. No interference with drainage of appendix. Doubtless subject to traction when patient is erect. Some evidence of fixation of middle of transverse colon.	Narrow band running from transverse meso-colon to pylorus, causing marked constriction of pyloric orifice. Evidence of old ulcer on extreme upper point of first portion of duodenum and approaching pylorus. Greatly distended duodenum. Transverse colon prolapsed into pelvis. Appendix long, curved toward iliac crest; its tip firmly adherent by fibrous bands to transverse mesocolon forming complete half circle. Cecum long and mobile. Ileum, at point four inches from ileocecal valve, firmly adherent to pelvic floor by fibrous band three inches wide. Pelvic colon firmly anchored above brim of pelvis by three bands.



CASE VII. Fig. 11-a.

- A. Ascending colon.
- B. Enteroptotic transverse colon.
- C. Appendix adherent close to transverse mesocolon, with volvulus cecum.
- D. Terminal ileum.
- E. Broad ileopelvic band.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. VIII. B. Female, 37. Operation, Alston's Private Hospital, May 18, 1914.	Gastric ulcer. Chronic appendicitis. Appendix lying transverse, tip apparently adherent beneath ileal mesentery. Constriction or kink near tip. Band or membrane just above cecum. Probably a small mesenteric band on descending colon. Evidences of adhesions binding iliac sigmoid in iliac fossa.	Ulcer on middle of lesser curvature of stomach. Broad band of old adhesions from inner half of appendix to pelvis. Distal half of appendix free. Adhesions between ascending colon and right parietal peritoneum. Left ovary buried in mass of adhesions which were attached to sigmoid colon, giving it an excessive angle. A light band of adhesion at duodeno-jejunal angle.



CASE VIII. Fig. 12-a.

- A. Twisted appendix.
- B. Very strong band across ascending colon, causing considerable obstruction.
- C. Strong band from appendix to pelvis.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. IX. E. Female, 12. Operation, N. Y. Skin and Cancer Hospital, May 25, 1914.	<p>Duodenal ulcer. Many adhesions extending from duodenum to pylorus.</p> <p>Ileal kink, due to adherent appendix. Point of limited mobility of terminal ileum at this place.</p> <p>Patulous ileocecal valve.</p> <p>Appendix evidently kinks when patient is erect, which probably accounts for the poor drainage at tip.</p> <p>Angulation of sigmoid. Some signs of adhesions of sigmoid just above rectum. Moderately redundant sigmoid. Dilated rectum.</p>	<p>Duodenum slightly dilated, showing scar of old ulcer one inch from pylorus. Greater curvature slightly prolapsed.</p> <p>Hepatic flexure of colon drawn up by a band, forming angulation at that point.</p> <p>"Jackson's membrane."</p> <p>Patulous ileocecal valve.</p> <p>Strong band across duodenum just below scar of old ulcer, causing constriction and dilatation.</p> <p>Typical ileo-pelvic band, causing kink.</p> <p>Appendix presented fairly normal appearance on its external surface, but in its interior several small concretions could be palpated.</p>

CASE IX. Fig. 13-a.

- A. Ileo-pelvic (Lane's) band.
- B. "Jackson's membrane."
- C. Strong band, with angulation of hepatic flexure.
- D. Scar of duodenal ulcer.



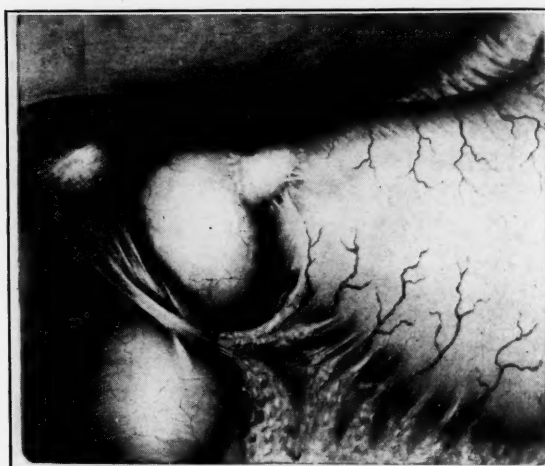
CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
<p>No. X. B. Male, 32.</p> <p>Referred by Dr. Hermann Eichhorn, New York City.</p> <p>Operation, N. Y. Polyclinic Hospital.</p>	<p>Duodenal ulcer, with incomplete obstruction near apex of conus duodenalis.</p> <p>Dilated duodenum.</p> <p>Evidence of adhesions around cecum and appendix.</p> <p>Acute angulation of splenic flexure; there is probably a band binding the pelvic sigmoid.</p>	<p>Stomach prolapsed well down below umbilicus. Hepatic flexure just above umbilicus. Pyloric ulcer scar.</p> <p>Distinct accentuation of last kink, causing fixation of pelvic colon.</p> <p>Transverse colon prolapsed down into true pelvis.</p> <p>Appendix angulated, but formed no part of ileal stasis.⁵</p> <p>Distinct duodeno-jejunal kink. Duodenum markedly dilated. Constricting band across duodenum extending from under surface of liver.</p>

5. Fig. 14-a shows bands about cecum and attachment of appendix to the ileopelvic band.



CASE X. Fig. 14-a.

- A. Heavy bands attaching abdominal wall to ascending colon.
- B. Bands attaching transverse colon to ascending colon.
- C. Angulated appendix attached to edge of ileopelvic band.
- D. Ileopelvic band.
- E. Dilated ileum.
- F. Dilated stomach.



CASE X. Fig. 15-a.

- A. Scarred pylorus, contracted.
- B. Heavy band across duodenum from under surface of gall-bladder to edge of great omentum, causing hour-glass shape of dilated duodenum.

CASE	RADIOGRAPHIC FINDINGS (Before Operation)	OPERATIVE FINDINGS
No. XI. N. Male, 32. Referred by Dr. William Van Valzah Hayes, New York City. Operation, N. Y. Poly- clinic Hospital, Feb. 11, 1914.	Stomach atonic and dilated. Very prolonged gastric retention due to obstruction of duodenum. Deformity about middle of conus duodenalis. Excessive gastric retention prevented further intestinal examination.	Stomach enlarged, extending clear to blad- der. Angulation of pylorus.

.6 NOTE: Subsequent X-Ray plates showed reduction in size of stomach about one-half. Anticipating such a reduction, the gastro-enterostomy was made, as indicated in Fig. 16-a, (C), so that, after contraction, it would be at the most dependent portion of the stomach.



CASE XI. Fig. 16-a.

- A. Greatly dilated stomach, extending to symphysis pubis.
- B. Angulation at pylorus.
- C. Site of gastroenterostomy.

SOME ASPECTS OF CONGENITAL SYPHILIS AFFECTING THE NERVOUS SYSTEM.*

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As is well known, acquired syphilis in its later stages not infrequently manifests itself by its effects on the nervous system, and inherited or congenital syphilis may do the same. Regarding this latter, I would like to call attention to some points of rather special interest that have developed in cases recently observed. The advance in the study of syphilis in the last few years, especially the Wassermann reaction on the blood, the examination of the spinal fluid, and luetin reaction, have enabled us to look deeper into our cases than was heretofore possible and the diagnosis of syphilis no longer depends on the observation of more or less characteristic muco-cutaneous lesions. Syphilitic

lesions, of skin, bone or internal organs, are now recognized as the effects of the spirochete pallidæ, the manifestations of which vary greatly and many conditions are now recognized as syphilitic when formerly their etiology was either unknown or uncertain. In most instances the spirochete can be recovered from the lesions.

The case of hereditary or congenital syphilis was formerly recognized by certain, generally quite obvious, signs such as skin eruptions, snuffles, etc., and children not so affected were regarded as free of the disease. More critical observers also included certain deformities of bones, teeth, etc. as indications of hereditary syphilis, the so-called "stigmata." It was observed, however, that in many cases the children of syphilitic parents did not present these stigmata and, in the absence of other means of diagnosis, the conclusion was drawn that they were free of syphilis. I have made the observation that the same holds true of congenital syphilis as for acquired syphilis; when the central ner-

*Read before the Calhoun County Medical Society, December 2, 1914.

vous system is affected the skin manifestations and ordinary signs of syphilis are often conspicuous by their absence. In these cases, however, other signs are present. I have looked carefully for all the signs which have been considered significant of syphilis and I have noted the signs present in my cases. The result is very interesting as showing that, in congenital syphilis of the nervous system, the signs present are quite different than the signs present in association with congenital lues affecting the skin or viscera. Dr. L. Findlay, of Glasgow¹ in reporting cases of congenital syphilis causing feeble mindedness has also observed this and one of his conclusions is that "in syphilitic idiocy there may be no luetic stigmata." Dr. Findlay does not relate the stigmata he looked for and I can agree with his conclusion only in so far as to say that the ordinary signs, i. e. affecting bone and connective tissue, are absent in these cases. It follows from this that to diagnose such cases by the merely routine examination of teeth, bones and skin is impossible. In fact even laboratory tests in these cases are not conclusive between the time of birth and the development of the symptoms as Grulee² has shown. The diagnosis is best made by careful consideration of all of the clinical aspects of the case.

Another point of interest in the cases reported by Findlay is that the parents of these children denied all knowledge of syphilitic infection and were apparently well. This has frequently been the case in my experience, and in a series of four recently observed cases, not only were the parents well and denied syphilis but a Wassermann reaction of the blood of both parents was reported negative, though the Wassermann reaction of the patient's blood was positive. It may be concluded, therefore, that it is practically useless in diagnosis to rely on a negative history or negative findings in the blood of the parents.

Congenital syphilis of the central nervous system manifests itself in various ways. It may be as epilepsy, feeble-mindedness, or various paralytic phenomena of cerebral origin; or sometimes all three. I can best describe the clinical aspect of some of these cases by summarizing the findings in some recent examples taken chiefly from private practice.

CASE REPORTS.

CASE I. A female child, age 6, first seen October 21, 1914. The parents accompanied the child and were apparently well. The paternal grandmother

died at seventy years, of old age, but the other grandparents, uncles and aunts were living and well. Neurological examinations of the father and mother were negative and the Wassermann reactions on the blood of both father and mother were also negative. The first child of these parents died at the age of two weeks, of convulsions. The patient was born about a month prematurely, without instruments. It was said that until she was three months old she was "yellow." For six weeks after she was born she slept almost continuously. She was breast fed until she was about two years old and always took the breast without trouble, but other food was vomited. When cutting teeth she had fever and sweats and was said to suffer frequently from "prickly heat." When about three months old she began having convulsions and had one about every two weeks until she was six months old, when she had a series of severe convulsions in which she was unconscious for three days. The patient did not develop normally after this. She did not sit up and could not sit alone at the age of six. The first words she spoke when about five years old. Examination showed that she was undersized, distinct veins were noticed in the temporal region and the head was moist with perspiration. She showed more or less continuous, choriform movements. She could speak a few words but not distinctly. Neither eyeball rotated out as far as it should but other extra-ocular movements were normal. There was no distinct nystagmus. The pupils were a little unequal; the left was larger and reacted to light. The reaction of the right pupil was sluggish to light. Both pupils apparently reacted in accommodation. There were frequent facial grimaces but no distinct facial palsy. The teeth were somewhat decayed, otherwise not abnormal. There was no enlargement of the thyroid. Both the arms and legs were spastic and slightly contracted. The tendon reflexes were present but difficult to obtain. Plantar irritation caused extension of the toes. Painful stimuli were well felt. In trying to grasp an object the movements of the hands were extremely ataxic. A Binet-Simon test gave a mental age of four. The ordinary stigmata of congenital lues were absent. A Wassermann reaction on the blood was positive (XXXX).

CASE II. Female, age 5½ years, first seen October 18, 1914. The father and mother, who accompanied the child, were well and denied all knowledge of specific infection. The grandparents, uncles and aunts were living and well. There was no history of paralysis or insanity in the family. The Wassermann reaction on the mother's blood was negative and an examination of the father's blood was also negative. The father's ears were examined by Dr. Canfield, and his eyes by Dr. Slocum, and no signs of syphilis found. The patient was an only child and there was no history of miscarriages; she was born about eighteen months after the marriage of her parents. The birth was assisted with instruments but no distinct traumatism was noticed. The child was about a month premature, weight six and a half pounds at birth, and showed some jaundice for about three weeks. She was well except for some digestive disturbance until five and a half months of age when she had convulsions which lasted all day. Treatment was with hot baths and in the stupor following the convulsions she was thought to be

1. Use of Neosalvarsan in Mental Deficiency. Glasgow Medical Journal, October, 1914, p. 241.

2. American Journal of Medical Science, November, 1914.

dead. By the next day, she had recovered consciousness and seemed to be about the same as before. It was not until three or four months afterwards that it was noticed that she was not sitting up and not using her arms and legs as a normal child should. She did not talk as early as she should, not till the third year. She was sixteen months old when she cut her first teeth. She had no sores nor eruptions on her body. She was not able to stand on her feet until she was five years old and now can only stand with support. She began saying only simple syllables at three years, could repeat the alphabet at four. The patient's father said that her arms had apparently not improved any in usefulness since she was a baby. There was no evidence of pain at any time, no screaming in her sleep. He said that the child was completely relaxed in sleep. The child was fairly well nourished. She could not stand or walk unless held. There was apparent difficulty in looking where she wished which seemed to be due to an ataxia of the eyeball. There was also an ataxia in moving the head. The pupils were somewhat dilated but equal. It could not be determined that they reacted to light and the ocular fundi were not examined. Speech was monosyllabic, also seemed ataxic and was very difficult to understand. The ears were malformed on both sides. There was no scars about the body. The neck was thick and the neck muscles well developed; this was apparently the result of spasmodic torticollis. She had all the first teeth. She was perspiring freely and there was a history of profuse skin eruption called "prickley heat." All four extremities were slightly spastic but more markedly ataxic. The gait was spastic ataxic and was cross legged. All movements were distinctly ataxic and there was constant choreiform movements of the face and extremities. The Wassermann reaction on the blood was positive.

It will be noted that these two cases are almost exactly alike even in details.

CASE III. Female, age 11, first seen July 1, 1914. The father and mother, who accompanied the child, were both well and denied syphilitic infection. The patient was an only child but the mother had had two miscarriages after, and one before this child was born. The mother says that the patient was noticed to be awkward when she first tried to sit up. She was over three years old before she was able to walk and she was two years old before she was able to talk. She had never had convulsions. There was no history of any nervous or mental disease in the family and the Wassermann reaction on the blood of the father and mother were negative. The patient's gait seemed to be awkward and the awkwardness was made somewhat worse by closing the eyes. She replied to questions promptly and was apparently of about normal mentality. She generally held her head considerably retracted. The sternocleidomastoid muscles on both sides were very prominent. There were occasional slow movements of the head; the movements of the extremities were like athetoid movements. Nothing decidedly abnormal in the shape or size of the head was noted. There were some enlarged post-cervical glands. The pupils were equal and they both reacted to light but the left was decidedly sluggish. There was marked difficulty in controlling the eye movements, and

in looking to either the right or the left there developed a wide nystagmus. There was no enlargement of the thyroid. There was no paralysis of the face or tongue. In showing the tongue or drawing back the corners of the mouth there was an exaggeration of the bending back of the head. There was no atrophy or deformity of the arms or hands. The biceps and triceps reflexes were present but diminished on both sides. The patient seemed to have considerable difficulty in relaxing. There was marked adiadiococinesia. She felt pinpoint apparently equally well on each hand. There was no atrophy or deformity of the legs. The knee jerks were not obtained on either side. The Achilles reflexes were not obtained on either side. There was an ataxia of both hands in the finger to nose test, not made worse by closing the eyes. The Wassermann reaction on the patient's blood was strongly positive.

It will be noted that the first two cases are alike almost to the last detail. In the third case the patient was older and there was no history of convulsions but there was the same ataxia and choreiform movement and the same findings on examination, which would seem to demonstrate that the convulsions were not a necessary factor in these cases. I would especially call attention to the very good health of the parents and the fact that the Wassermann reaction was negative in the parents in all of these cases.

The next class of cases are those in which symptoms develop in childhood after an apparently normal infancy. These cases are more important than the cases with congenital symptoms for the reason that the diagnosis is even more likely to be overlooked and also for the reason that proper therapy is effective in such cases.

CASE IV. Male, 19 months old, was first seen, June 21, 1911, in consultation with the family physician who, together with other consultants had regarded the case as one of tuberculous meningitis. The father and mother were well. The father at first denied but later admitted that he had had syphilis at the age of 19. The patient was an only child. There had been one miscarriage. The patient was born naturally, began walking and talking at about one year, had never been sick and was regarded as very healthy. Several weeks before I saw him he began to hold his head stiff and turned to the right and at about the same time a discharge was noticed from the ear which lasted about a week then stopped. The child continued to complain of headache; would not walk or sit up; staggered on walking with support and had some vomiting but no convulsions. He was stuporous. Examination showed a fairly well nourished child. The pupils were equal and reacted to light but there was a slight strabismus. There were some enlarged glands in the neck and the head was retracted and turned to the right. The tendon reflexes were normal and there was no Babinski reflex. There was no definite paralysis of the extremities and no Kernig's sign.

Hearing was apparently normal. He was placed on daily inunctions of one dram of mercural ointment and also sirup of the iodide of iron. Improvement was noticed in one week and in three weeks he seemed well. I have heard from the child at intervals since then and he remains well.

CASE V. A boy, age 8, with an entirely negative family history, was said to have had rickets when a baby and corneal ulcers about one year before being seen, Nov. 27, 1913. His sickness apparently began about six weeks before that date, when he complained of dizziness and blind spells, but he continued to go to school. About three weeks later he had an especially severe dizzy spell with headache and became weak in his left side. He seemed to recover from this in a few hours. About a week after this he had a convulsion and was found paralyzed on his right side. He was then unable to talk, to say anything except yes or no. There was no distinct history of fever and no vomiting. When examined the patient was lying quietly in bed and apparently conscious but would not respond to questions or obey commands. The pupils were dilated and reacted very little to light. Accommodation could not be tested. The eyeballs did not turn as far as they should but the extraocular movements were otherwise normal. The right arm was contracted in flexion at the elbow. The contractures could be passively overcome and there was no distinct atrophy. The biceps and triceps reflexes were increased. There was some weakness of the right leg but no contractures. The knee jerks were increased on both sides. The Achilles jerks were prompt on both sides. The Babinski reflex was present on the right, not on the left. The patient's father denied syphilis and said that he was the father of seven healthy children, the patient being the second child. A lumbar puncture showed positive globulin and albumin reactions and a four plus Wassermann reaction on the spinal fluid. The patient was not treated for syphilis and an examination a month later showed about the same findings, though the patient was more emaciated and at this time both legs were spastic.

CASE VI. Female, age 4 years, was seen Oct. 18, 1914, at the patient's home in consultation with the family physician, who had made a diagnosis of tuberculous meningitis. The father, mother and grandparents were well and syphilis was emphatically denied. The child had been considered a very healthy and pretty girl. The first convulsion, epileptiform in character, occurred six weeks before while the child was apparently well, and affected more the left side, which seemed paralyzed for a short time afterwards. One month later she had another convulsion which affected the right side and was followed by weakness on that side. Two weeks later she had still another; and following this a series of attacks. When seen she was apparently conscious but she would not talk and was very irritable when disturbed. She apparently had no headache but vomited as soon as she was forced to sit up. The pupils were equal but reaction to light was questionable and the reaction to accommodation could not be tested. There was no strabismus although the doctor said that there had been. There was no definite paralysis. The tendon reflexes were all normal.

There was no Kernig sign and no Babinski. A physical examination showed nothing abnormal. The urine had a specific gravity of 1018 and contained no sugar, no albumin and no casts. The spinal fluid was clear, showed some increase in lymphocytes, slight globulin reaction, and a positive Wassermann reaction. There were no tubercle bacilli. The treatment suggested was inunctions of mercury and potassium iodide. The patient was not under my observation after this but on October 28 her condition was reported to me as being somewhat better. She had vomited twice but complained of no headache. Stools were normal. Temperature, pulse and respiration normal. She was drowsy but easily aroused and ate well and had no convulsions. On November 5, she again had convulsions and became apparently blind and deaf. Pulse became very slow and irregular and she died in coma.

CASE VII. Female, age 3 years. First seen June 11, 1913. The father had a valvular heart trouble, the mother and one brother were well. There was no history of injury at birth. The patient walked and talked at about the age of one year and was regraded as a healthy infant. The sickness apparently followed whooping cough and muco-colitis. There was no vomiting and no convulsion. The child became emaciated, peevish, gradually grew weak in the legs and arms and could not talk as plainly as before. When examined she was unable to sit or stand, could make no movement in either leg, and there was also marked weakness in the arms. There was no complaint of pain and no pain on movement of the limbs. The knee jerks and Achilles jerks could not be obtained. There seemed to be no localized atrophy, though the arms and legs were extremely wasted. Plantar irritation caused flexion of the toes on both sides. There was no Kernig sign and no retraction of the head. The liver felt enlarged. There was a general brownish discoloration of the body. Sensation to pain was retained in all four extremities. The fundus showed a neuroretinitis of luetic type. A Wassermann reaction on the blood of the mother was negative, on the patient's blood was positive. The father's blood was not taken. The patient was treated with mercury and iodide. On the 30th of July, the same year, the family physician reported a marked improvement.

It will be noticed that Cases IV to VII show considerable variation in the clinical manifestations. For the most part the diagnosis is confused with tuberculous meningitis or anterior poliomyelitis. These cases may completely recover under appropriate treatment but have a tendency to become progressively worse without treatment and are often fatal even in spite of treatment. Just why this difference in the response to treatment is difficult to say but it is very similar to the result of treatment in cases of acquired syphilis of the central nervous system which in some cases rapidly progresses even though energetically treated.

The pathology of the Cases I to III, inclusive, is probably a chronic interstitial encephalitis

such as Virchow described, as early as 1865.³ A short time after v. Gräfe⁴ described similar changes occurring in the cornea and spoke of their relation to the changes described by Virchow in the brain. Although interstitial keratitis has ever since then been recognized as a sign of congenital syphilis the indications of similar changes in the brain have generally been overlooked in this connection. The pathologic changes in Cases IV to VII were probably of the same type although in these cases there is perhaps more meningeal involvement, a meningo-encephalitis, and in this respect they resemble more the brain changes due to acquired syphilis.

Syphilis as a cause of epilepsy is well known. A great many cases formerly regarded as idiopathic epilepsy are found on further investigation to be due to syphilis and in a certain number of cases the syphilis is congenital. These cases are not uncommon and I have seen a large number of them but they are similar in their clinical manifestations and I report only one example.

CASE VIII. A girl, age 17, was first seen in June, 1913, complaining of petitmal epileptic attacks. The father was living and well. The mother was dead, supposedly of anemia. Two brothers were apparently well. There was no family history of epilepsy. The patient had had no other sicknesses and had been regarded as a healthy child. She had had two operations on the nose and a circumcision in endeavors to relieve the attacks. The petitmal attacks began about the age of 13 and, in 1913, she was having them about once a month. There was no other complaints. Examination showed a well nourished girl. The pupils were equal and reacted to light and in accommodation. There was slight nystagmus. The fundi showed a neuroretinitis. Bone conduction was reduced in both ears though the hearing in other respects was normal. The tendon and skin reflexes were normal. There was no paralysis and no sensory changes. The patient had scaphoid scapulae. The diagnosis of hereditary lues was suggested but her home physician did not carry out very energetic treatment. The patient returned to see me October 9, 1914. She was then having grandmal attacks, about two or three times a week, usually at night, also petitmal attacks during the day. The examination showed practically the same findings as before. The Wassermann reaction on the blood was four plus positive. She began receiving treatment by intramuscular injections of mercury on the 12th of October. She had one attack on the first of November and no petitmal attacks at all. On November 16 a Wassermann reaction was reported doubtful on the blood and treatment was stopped temporarily.

Cases of syphilitic epilepsy, whether inherited

or acquired, frequently respond to treatment. My own experience is not sufficiently large or long to say that these cases can be cured but they are unquestionably much benefited by proper treatment and are very refractory cases to ordinary treatment such as bromides, etc.

CONCLUSIONS.

My conclusions which are drawn from other cases under observation and from the literature as well as the cases mentioned above would be:

A negative history for syphilis in the parents of a patient, no matter how carefully inquired into, cannot be trusted to rule out the diagnosis of congenital syphilis of the nervous system.

A negative Wassermann reaction on the blood of both parents is not sufficient to exclude the diagnosis of congenital syphilis of the nervous system.

Mental defect often associated with paralytic and convulsive phenomena is frequently due to congenital syphilis.

The diagnosis in such cases must be made by the peculiar clinical manifestations but it will often be confirmed by a positive Wassermann reaction on the blood or cerebrospinal fluid or both and by the results of therapy. The pathology in such cases is probably a chronic interstitial encephalitis.

There are many cases of meningo-encephalitis and meningo-myelitis occurring in children that are due to inherited syphilis but which are often mistaken for tuberculous meningitis or for poliomyelitis. The clinical findings are the best diagnostic criteria in such cases.

304 South State St.

THE PROGNOSIS OF CANCER OF THE STOMACH.*

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Of all the diseases to which human flesh is heir, cancer stands supreme in inspiring mankind with fear and dread. Its ravages are considered most terrible and the unfortunate victim, afflicted with this disease, has its doom sealed in the eyes of the laity and many physicians.

Only a few years ago tuberculosis had the same power of striking terror into the heart of man. Years ago tubercular patients were consigned to hospitals and sanatoria, treated with doubtful medication, and nursed with com-

3. Virchow's Archiv., Bd. 38, S. 129.

4. Archiv. f. Ophth. Bd. 12, S. 250.

*Read before the Wayne County Medical Society, December 21, 1914.

passion to make the anticipation of death more pleasant. We now know that tuberculosis is a curable disease, if taken in time and properly treated. We are convinced that much has been done and many lives, that inevitably would have succumbed in days gone by, have been saved. We have the facts and proofs in our statistics.

But the word cancer still retains its morbid pessimism. The public has been educated by the profession and the press in matters pertaining to tuberculosis, but the opinion seems prevalent, that cancer and death are almost synonymous. A world wide campaign has been convincing, that the cure of tuberculosis consists mainly in prophylaxis and an early recognition of the disease and that a late diagnosis is equivalent to a fatal termination. Cancer of the stomach is also a curable disease, and to effect a cure, like in tuberculosis, we must rely chiefly upon prophylaxis and an early diagnosis. The layman has been so well instructed, that he never fails to consult a physician when he has persistent cough. Give him the same instruction in regard to cancer, and he will not be satisfied, or content himself with taking dyspepsia tablets and the like for months with persistent stomach trouble, before he subjects himself to professional treatment.

DELAY.

The prognosis of cancer of the stomach is hampered by a late diagnosis. Unnecessary delay cannot be too strongly condemned. At times physicians will stand calmly by, treat a patient without special concern or interest; with diagnostic carelessness call the chronic and the ever returning stomach symptoms dyspepsia, and carry him along with stomachica, until the carcinoma has passed the operatively curable stage. Unfortunately, the treatment of cancer of the stomach has all the horrors of war and pestilence for the patient—the dreaded knife and the operating table. The treatment of tuberculosis is much more acceptable; rest, wholesome food, fresh air, etc. In spite of the fear of an abdominal operation, the constant cry of the surgeon for an early operation in appendicitis has had such an effect in educating the public, that an operative procedure is now seldom refused; on the contrary, when the attending physician hesitates, the operation is suggested by the patient himself or surgical consultation is requested.

Wm. J. Mayo, in giving the reasons why patients with carcinoma of the stomach are left to their fate, divides them into three groups:

1. The supposed prohibitive mortality of the operation itself,
2. The improbability of a cure, providing the operation is successful,
3. The difficulty of securing a sufficiently early diagnosis, upon which to base the operation.

We shall give these three reasons our consideration.

ETIOLOGY AND LOCAL FOCUS.

Cancer is not hereditary, still the predisposition for development of cancer in certain families seems to be more favorable.

Cancer exists in the cancer cell, which single cell has the possibility of unlimited division. The stroma is not cancer in itself, as was believed years ago. It is the barrier of resistance, that hinders the growth of cancer. A cancerous tumor well intergrown with stroma grows with much less rapidity, and this explains why a scirrhus is slow in development and why a cancer of the mamma, that is rich in stroma, can last for years. It also explains why the paste and cautery cures are successful by forming scar tissue at the boundary of the growth and effectively resisting the invasion of the cancer cell.

All cancers are at one time local, and it is definitely known, that cancer during this period is curable; contrary to the one-time belief that cancer is constitutional. The removal of a local growth gives an excellent prognosis, but it is the diagnosis that presents the difficulty in the early stage; i. e. when the growth is still localized. A localized cancer of the stomach gives just as good a prognosis as cancer in any other part of the human system. In other words, if we are able to make the diagnosis and resect a cancer in its inception, before it has spread into other territories, the prognosis is very good.

According to Truesdale,¹ nearly one-half of all cancers have their origin in the stomach, and it is only rarely cured in this location. The fact that cancer is primarily a local disease and permanently curable in its incipency, should be made common knowledge. It should also be made known that it often becomes engrafted upon ulcer.

LYMPHATIC SPREAD.

Heidenhain demonstrated clearly that the spread of cancer is along the lymphatics. He made 17,000 microscopical sections in series and was one of the first to show the growth of cancer through the lymphatics. The height of development of the lymphatics is reached in adolescence

1. Boston M. & S. Journal, July 10th, 1913.

and, as demonstrated by Charles H. Mayo, they undergo a progressive atrophy in old age. Consequently, the older the patient, the slower the development of cancer.

There are three distinct lymph territories of the stomach:

1. The greater portion of the anterior and posterior wall, which drain to the lesser curvature.
2. Right half of the greater curvature with the pylorus, which drain toward the greater curvature and the pyloric region.
3. The left and upper half of the greater curvature, which drains toward the spleen.

The glands from the pylorus, that drain toward the lesser curvature, can easily be removed. But the resection of the deeper glands is very

CANCER, A SURGICAL DISEASE.

All cancers of the stomach are *ipso facto* surgical diseases, and surgical consultation should be employed, when there is any suspicion of cancer. Surgery is the only means of treatment. Not a single case of cancer of the stomach has as yet been reported, that has been cured by medical means. Appendicitis is considered a surgical disease by almost the entire profession, still many cases recover without an operation. Strangulated hernia is a surgical disease, still, we may have a spontaneous anus forming and the patient makes a recovery without an operation. Cancer of the lip and cancer of the breast may be occasionally cured by pastes and cautery; but cancer of the stomach has not the

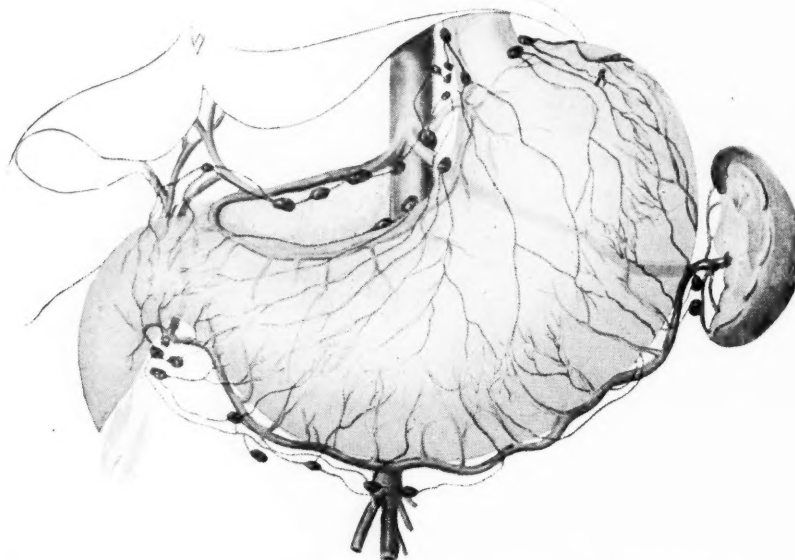


Fig. 1. The arteries and lymphatics of the stomach. Diagrammatic anterior view. (Moynihan.)

difficult, on account of the pancreas and the common duct.

Cancer cells can enter the thoracic duct, pass into the angulus venosus, and in this way be scattered throughout the entire system.

A simple division of the lymphatics of the stomach may be made by drawing a line from the cardiac orifice directly downward, which divides the stomach into two halves. To the left of the line lymphatics drain toward the spleen and around the cardia. Carcinoma in this region is rare. To the right of the line, with the pylorus, they drain toward the lesser and greater curvature, where 80 per cent. of all carcinomata of the stomach occur. This part of the stomach can be more easily palpated and also presents less difficulty of removal.

remotest chance of a cure without the knife. Non-surgical treatment of cancer of the stomach is therefore non-logical.

The great strides in cancer cures and the steadily growing percentage of cures have all been in the organs easily accessible, such as the uterus, lip, breast, etc.

As a result of the popular campaign against cancer in Germany, its people have been educated as to the dangers of the disease, and as to the necessity of an early operation. The consequence is, that the cancer patient in Germany presents himself for operation at an earlier stage than in America, and a higher percentage is operated upon during the early period, with correspondingly better results.

LOCATION AND AIDS IN DIAGNOSIS.

Statistics show that in the male 75 per cent., and in the female 50 per cent. of all cancers are in the alimentary canal.

The stomach is more often involved in cancer than any other part or organ of the body. Thirty per cent. of all cancers in the male, and 22 per cent. in the female have their origin in the stomach.

The aids in diagnosis of incipient cancer of the stomach at the present time are all more or less unreliable. The gastroscope has not yet been perfected for practical use, although a great deal of experimental work is being done by Jackson, Plummer and Janeway.



Fig. 2. The lymphatic areas of the stomach: a, The area from which the lymphatic vessels drain into the coronary glands; b, The area from which the vessels drain into the glands along the greater curvature; c, The "isolated" area. (Moynihan.)

Leucocytosis may be an aid in prognosticating, but is of little value in early diagnosis.

The X-Ray with bismuth injection will sometimes reveal a tumor that could not be palpated, but will rarely show a beginning tumor, that has not given any typical symptoms. It is a great aid in confirming the diagnosis. In the early stage of carcinoma of the stomach, the X-Ray may be a better aid in diagnosis, not because it shows that a cancer is present, but because it shows deformities and muscular deficiencies, that are indicative of cancer.

The examination of stomach contents in the early stage is only of relative value, but not pathognomonic. Gastric contents must be taken in connection with the history and symptoms; alone it is of no positive value. In 1,000 cases

of cancer of the stomach in the Mayo clinic, lactic acid was found in only 43 per cent. of cases, and these were mostly advanced cases.

Blood was found in 73 per cent. cases.

Severe hemorrhage from the mouth in 4 per cent.

Coffee ground vomit in 6.25 per cent.

Hemorrhage from the bowel 9 per cent.

Boas-Oppler bacillus in 93.8 per cent. cases of gastric cancer.

The medical profession has been looking forward with great expectation to the Abderhalden Sero-Enzyme test, as a means of early diagnosis in cancer. That this fond hope has not yet been realized, may be shown by quoting from the paper of Dr. F. W. Baeslack, read before the Section of Dermatology, at the 65th annual session of the American Medical Association:

1. "It is practically impossible to obtain cancer-tissue free from the connective-tissue stroma. The reaction for connective-tissue is the same. This may be the reason why certain serums give positive reactions in other conditions than those clinically apparent.

2. "As the cancer invades an organ, there is usually degeneration of the neighboring tissue-cells, and a consequent occurrence of protective enzymes in the serum of the patient against this cell protein.

3. "In addition the cancer cell may retain traces of the functional activity of the tissue from which it originated.

4. "Finally, the occurrence of protective enzymes in the serum is dependent on the breaking up of the tissue in the blood and on the resorption of such broken-down tissue. Thus, an actively growing neoplasm may not give off cancer protein at all, or may give it in such small quantities, that the enzymes directed against it are not demonstrable. For these reasons the choice of the sero-enzymes diagnosis for neoplasms may not have been a happy one to bring the conflicting conclusions into any relation."

Blood and secretion examinations have not been developed sufficiently to give any reliable test.

The examination of the stomach for occult blood is favorable, because it can be found in the stool and also in the stomach contents. Occult blood can only be taken into consideration, when all sources of bleeding can be eliminated, that might be caused by artificial or mechanical means; as lavage, vomiting, etc. The regular occurrence of occult blood is the most constant and reliable symptom of carcinoma ventriculi.

Out of 110 cases of cancer of the stomach, proven as such by operation,² occult blood was found in 94.55 per cent., anacidity, only in 88.88 per cent., lactic acid in 67.29 per cent., "Faden-

2. Zoeppferitz, *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Vol. XXV.

bacillen" in only 64.35 per cent., palpable tumor in 63.63 per cent. of all cases.

The presence of occult blood in regard to frequency stands foremost of all symptoms for an early recognition of cancer.

Regular presence of occult blood in the stool and stomach contents, when subjective stomach symptoms are present, in all probability may be considered cancer of the stomach, and an indication for exploratory laparotomy.

Ulcer is commonly recognized as the etiologic factor in cancer of the stomach. Keen has shown that no carcinoma of the skin develops without a pre-existing lesion. This statement is also in all likelihood true with cancer of the stomach. In chronic ulcer we have the most common primary cause. It was shown in 218 pathologic specimens of cancer of the stomach at St. Mary's Hospital, Rochester, Minn., that more than one-

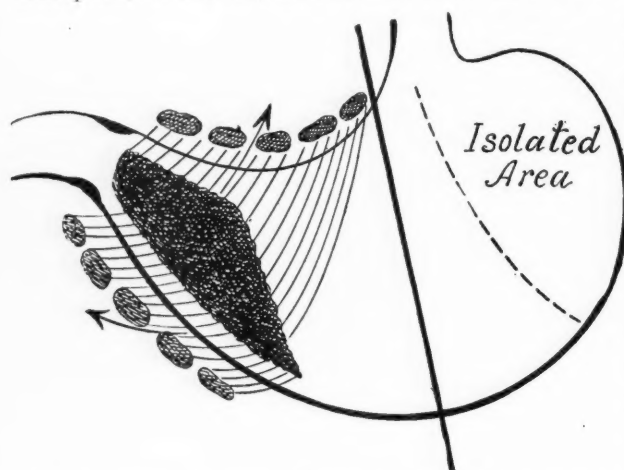


Fig. 3. Diagram to show the mode of spreading of a pyloric cancer, the lymphatic invasion, and the line of division of the stomach in partial gastrectomy. Note especially that the whole lesser curvature is removed. The arrows indicate the direction of the lymphatic currents. (Moynihan.)

half originated in chronic ulcer. Dr. Graham, the internist of this institution, states from recent study, that 50 per cent. of all cancer of the stomach cases have ulcer history. "The fact," he says, "cannot be disputed, that 80 per cent. of all ulcers originate in the pyloric antrum and approximately the same percentage of cancers have this origin. When the surgeon has excised an ulcer, he knows, that he has done something to prevent cancer. Of all the cancers of the human body, none is as hopeless and vicious as carcinoma ventriculi. Chronic caloused ulcers should be excised as a prophylactic measure."

It has been sufficiently proved, that cancer develops on the base of a chronic ulcer in about 71 per cent. of cases. When the clinical diag-

nosis can be made, the operative measures as a rule are of no avail, and it is therefore our duty to forestall this malady by operating in the precancerous stage. This course of procedure is not only warranted on account of the possibility of cancer development, but it is also the best treatment for ulcer; the dangers of hemorrhage, perforation, subphrenic abscess, hour-glass stomach, etc. are absolutely eliminated.

EARLY DIAGNOSIS.

The bad results in operations for cancer of the stomach are due to the late diagnosis. The early stage of cancer of the stomach does not give rise to symptoms, unless the mechanical function of the stomach is interfered with. Cancer of the body of the stomach will give rise to indefinite symptoms and when mechanical obstruction takes place, a surgical cure is out of question; whereas an obstruction in the pyloric end of the stomach usually begins in the early period, and gives a good prognosis, because it is an easily accessible and removable part of the stomach.

The cases of cancer of the stomach are frequently treated at the hospitals in two divisions or departments: medicine and surgery. The patient enters the hospital and is placed in the medical department, because he complains of stomach trouble. After being put through a long period of investigation and laboratory examination, he is finally referred to the surgical department with the positive diagnosis of cancer of the stomach, confirmed with the corresponding laboratory credentials. The doors of the operating room are thrown open, a laparotomy is performed, and the verdict of an absolutely bad prognosis is given on account of inoperability due to the late stage. There is a feeling of disappointment on the medical and surgical side, which is an unquestionable detriment to medical and surgical progress. But the future will bring more co-operation as soon as we are all convinced, that cancer of the stomach is curable only by an early operation.

Waiting for all the signs and symptoms of cancer of the stomach to develop in order to make a convincing diagnosis, means waiting until the case is inoperable. Carrying on laboratory tests in detail, observing the patient for weeks, trying all the different remedies for a long time, and finally coming to the conclusion that the malady is cancerous, is preparing the patient for the morgue.

Early diagnosis of stomach carcinoma, with a subsequent early operation, affords the only

possible chance of a cure; for without surgical intervention the mortality will be 100 per cent. Deaver says: "What is needed most to give a better prognosis of cancer of the stomach is an early diagnosis." He claims, that too much time is lost in laboratory investigation.

The percentage of cases that come to the surgeon for operation is very low.

According to the statistics of the Cancer Commission of the Pennsylvania Medical Society, 68 per cent. superficial cancers were operable at the time they applied to the surgeon, and of the deep seated ones, only 48 per cent.

Making inquiry from several Detroit surgeons gives us the information, that the cases of gastric cancer referred for operation during the operable stage is from 30 to 40 per cent. The remainder are not amenable to surgical treatment or can only have a palliative operation performed. These figures are sufficient to make it clear, that a much larger percentage of cures could be attained, if there were an early diagnosis or an exploratory laparotomy in suspected cases.

During my last nine months of abdominal service at St. Mary's Hospital for cases referred by the municipality, there were approximately fifteen cases of cancer of the stomach. Every patient gave a history of long standing stomach disease and not a single case could be subjected to curative operative treatment on account of the advanced stage.

Metastasis in the liver evidenced by palpation or jaundice gives a poor prognosis.

Metastasis in the portal circulation, causing ascites, gives a poor prognosis.

Metastasis involving the sigmoid, rectum, ovary, etc. gives a poor prognosis.

The size of the tumor and the gravity of the affection do not always correspond. A large tumor may have only a few glands infected; whereas many glands may be infected in a relatively small tumor.

In cancer of the stomach it is not absolute that every enlarged lymph gland be cancerous. Sometimes the larger ones are cancerous and the smaller ones only inflammatory.

OPERATION.

The term "operable" is also much in abuse with the surgeon himself. He often thinks a case operable before the operation, when the recurrence of the disease renders absolute proof, that the case was inoperable. The advancement in discovering cancer of the stomach in the early stage has been but very little. The for-

tunate cases may be those, where the cancer originates at the pylorus and demands an operation, because it causes obstruction at an early stage. In these cases it is not the cancer itself that causes the obstruction, but the inflammation and engorged vessels. At this time the non-operative treatment gives good, but ultimately disastrous results.

Patients frequently have no definite symptoms of their disease, particularly, when there is no obstruction of the gastric contents being emptied into the bowel.

The prevalent idea, that finding a palpable tumor indicates an inoperable condition, has been proven a false conception. A movable tumor is a favorable condition.

Adhesions between the stomach and liver do not influence the prognosis.

Small portions of the pancreas removed, do not make the prognosis poor; but large portions are of serious consequence, on account of hemorrhage and the development of diabetes.

Enlarged lymph glands of both curvatures do not counterindicate, if they can be successfully removed.

Cancer of the fundus seldomly gives symptoms that will enable the surgeon to perform a timely operation, which may also be said of cancers that do not cause an obstruction at the pylorus or cardia.

A palpable tumor in the region of the pylorus, or finding remnants of food in the stomach after eight to ten hours and occult blood are practically the only signs upon which an early diagnosis can be based, if the other clinical findings correspond.

It is here, without waiting for further data, that the exploratory incision is indicated. Benign tumors and ulcer may cause the same clinical conditions, but they also demand surgical interference, and the latter possibility should not be prohibitive possibility.

The success of the operation depends largely on the position of the tumor, when no obstruction is caused. The prognosis is made more favorable by the fact, that about one-half of all cancers, if they do not cause an obstruction, are in a location where they are palpable.

The indication for operation is absolute, if the tumor and the affected glands can be removed; but this can only be positively determined when the abdomen is opened. For this reason exploratory laparotomy should be performed, if there are no distinct counterindications.

According to Wm. J. Mayo, a patient with

cancer of the stomach may be considered inoperable under the following conditions:

1. When cachexia is present, gastric disturbances are progressive, and have lasted over a period of five to six months, and a fixed tumor can be palpated in the left side; i. e. to the left of a line drawn from the cardiac orifice directly downward.

2. Cancer cells in any abdominal organ will have an escape into the abdomen, and by gravity be carried to the bottom of the abdominal cavity. Here they become attached to some other organ, principally the sigmoid and ovary.

3. When there is an enlargement of a group of glands in the supraclavicular fossa, situated around the entrance of the thoracic duct into the angulus venosus, which are palpable carcinomatous glands.

4. The lymphatics can carry carcinomatous cells to the umbilicus, where they form a buttonlike palpable mass. A small portion can be removed under local anesthesia for microscopical examination.

Counter-indications from other organs: Chronic bronchitis, tuberculosis, nephritis, marked diabetes, other serious diseases.

EXPLORATORY LAPAROTOMY.

Exploratory laparotomy is the only method we have at present to definitely diagnose cancer of the stomach in the early stage; in other words, while it is still in the curable stage. If it is not removed in its incipency, it inevitably terminates fatally.

An exploratory operation may be performed to establish a diagnosis, where the history and other findings warrant the suspicion of a carcinoma. It may also be performed where a tumor is palpable, to determine the possibility of removal.

A patient, who complains of loss of appetite, indigestion, progressive loss of weight, who has lost color, has an anxious expression and is in the cancer age, should be subjected to an exploratory laparotomy in spite of the absence of a palpable tumor, chemical, or X-Ray proof.

The mortality of exploratory operations according to the Mayos is 0.6 of 1 per cent., a convincing evidence that exploratory laparotomy is relatively no hazard to the patient's life.

Complete gastrectomy gives a very poor prognosis. The mortality is very high and there is no case on record, where a patient has lived the five year period.

Partial resection is the best palliative measure and should be preferred to gastro-enterostomy, because recurrence in the stomach is not likely.

MORTALITY.

The census reports for Great Britain show, that, while the population doubled between 1850 and 1905, the cancer mortality increased six

times. In the United States the mortality rate from this disease has risen from nine per one hundred thousand of living in 1850 to seventy-seven in 1909. There were 75,000 registered deaths from cancer in the United States in 1909, and a conservative estimate placed the number of those with the disease and still surviving at 225,000.

Billroth was the first to perform the operations of pylorotomy and partial gastrectomy for the cure of cancer of the stomach. They were prolonged operations with considerable hemorrhage and his mortality was 64 per cent. He was subjected to much criticism. The conservative men, to use the expression of Wm. J. Mayo, "conservative of the *do nothing* type," were horrified at a mortality percentage of 64, but seemed to forget, that their own mortality was 100 per cent. Before his death Billroth said, that his life had been saddened by the many patients with advanced carcinoma, who sought relief at his clinic. If we stop to consider why they came to his clinic we will understand that Billroth was the only man who gave them a chance of life.

An interesting point brought out by the statistics of the Cancer Commission of the Pennsylvania Medical Society, convinces that the percentage mortality could be greatly diminished by prophylaxis. Thirty-nine per cent. of the superficial, and 49 per cent. of the deep seated cancerous patients gave a well defined history of chronic disease of the stomach long before they presented themselves for surgical treatment, which goes to show, that almost one-half would not have developed cancer, if the previous conditions had been given the proper opportunity of having a cure effected.

From 1899 to 1909, the Mayo brothers performed 251 gastric resections for cancer of the stomach with a mortality of 13 per cent.

In 100 consecutive cases Wm. J. Mayo reports a mortality of 7 per cent., and of these 100 cases the last fifty cases show a mortality of only 4 per cent.

From the last report on mortality from excision of cancer of the stomach, the Mayos give the following figures:

The mortality from the operation itself is 10 per cent.

The chance of life for three years is 36 per cent.

The chance of life for five years is 25 per cent., and no doubt these figures included many bad risks. But above all, they are convincing and should be a stimulus to urge an early opera-

tion. Dr. W. L. Rodman says, "Surgery has accomplished much, when we can promise 25 per cent. cures in gastric cancer."

Formerly a patient who remained well for three years was considered cured. The time limit was then extended to five years, although there is no time limit, when the disease may not recur. Nevertheless, the percentage of those remaining well after five years is very large. If cancer develops again after five years, there is no way of determining, whether it is a recurrence of the old malady, or whether a new and entirely independent focus has originated.

"It may be said that with our present means of diagnosis, cancer of the pyloric end of the stomach can be recognized sufficiently early to perform a radical operation in at least half the cases. The mortality is about 10 per cent., depending largely upon the class of the cases accepted for operation. If an early diagnosis has been made and the patient is in good condition, the mortality will be less than 5 per cent. There is a prospect of a five-year cure in about 25 per cent., and a three year cure in 36 per cent., in the case of those who recover from the operation. Comparatively few patients who recover following a resection, fail to get more than one year relief." (Wm J. Mayo).

CONCLUSION.

Whenever there is a well grounded suspicion of cancer of the stomach, an exploratory laparotomy is indicated. As has been stated, an exploratory incision is often the only means of positively determining a malignant condition. Laparotomy for the sake of diagnosis is not a surgical hazard, but often a life saving measure. Should this procedure not reveal a malignant disease, there are, as a rule, other conditions, that need operative treatment. Taking into consideration, that the mortality of an exploratory incision is only 0.6 of 1 per cent., we must come to the conclusion, that we are assuming a great responsibility by not advising an exploratory laparotomy in suspected cases.

The mortality of the operation itself, when cancer has been diagnosed or found upon exploration, should not be an objection to surgical treatment. The success of the operation depends upon the spread of the disease and the time of diagnosis and operation. Statistics on mortality in operating for cancer of the stomach, where death ensues from the operation itself, is 10 per cent., irrespective of the gravity of the cases that were operated upon. This should be an encouragement for the surgical treatment of all cases that have not positively passed the operable stage.

The permanence of cure is also in favor of cancer resection, as the chance of life for the

three year period is 36 per cent., and of the five year period 25 per cent.

From these considerations we may conclude, that cancer of the stomach is an absolutely surgical disease. Statistics prove the fact. Bearing this in mind, and also the fact, that the mortality of cancer of the stomach without an operation is 100 per cent., every effort for an early diagnosis should be made; and if the stomach symptoms at the cancer age do not yield to medical treatment within a reasonably short time, an exploratory laparotomy is imperative to obtain a better prognosis of cancer of the stomach.

DISCUSSION.

DR. ANGUS McLEAN: To arrive at a conclusion as to the value of operations in carcinomata of the stomach and to estimate the value of operations in malignancy of the stomach, we are compelled to obtain our information from the records of the past.

With this in view, I have taken the reports of three of the largest clinics of the world, added their figures together and made an average of the grand total. The figures include twenty-one years of Kroenlein's work in Zurich, ten years of Von Mickulicz work at Breslau and three years work at the Mayo clinic in Rochester. The total number of patients who applied for relief of malignancy of the stomach were 1,350. Of this number 528, or about 39 per cent., were inoperable or only had an exploratory opening made. Those patients operated upon, are divided into two divisions; First, those on whom a palliative operation was done, such as gastro-enterostomy, gastrostomy or jejunostomy. Second, those on whom a curative operation was attempted, such as pylorotomy or a total or partial gastrectomy.

In the first division there were 448 cases, 33 per cent., in the second 379 cases, 28 per cent. This shows that only 28 per cent. applied at the large clinics in time to even attempt a radical operation. This supports the contention of the essayist that an earlier diagnosis must be made before we can hope for anything in the cure of cancer.

The non-operated cases lived about twelve months from the time of the appearance of the first symptoms of the disease.

The palliative cases i. e. gastro-enterostomy, lived about fifteen and one-half months.

The completely operated cases i. e. gastrectomies, lived twenty-five months.

Of the 379 cases in whom a partial or complete gastrectomy, (in the above named clinics) was performed, twenty-six cases were alive and well after three years.

These figures show that of all the cases that applied for relief of cancer of the stomach (1350) less than 30 per cent. were in time for a probable cure. Of the whole 1,350 cases only about 2 per cent. lived more than three years. This 2 per cent. was among the partial gastrectomy cases. The percentage of the partial or complete gastrectomy cases taken alone that lived for three years is $6\frac{2}{3}$ per cent., all demonstrating that, if the percentage of cures in the hands of such men as Kroenlein, Von Mickulicz

and Mayo, is so low something radically wrong is at fault, some great difficulty must still be overcome. This difficulty I believe we are all agreed is *too late a diagnosis* as Dr. Andries has already explained.

Of our own cases of resection of the stomach two are alive and well after two years. Of the palliative cases, the best we can boast of, is nineteen months of comparative comfort. This was a gastro-enterostomy for carcinoma of the pylorus. If these patients are to be cured or their lives lengthened any great period, their trouble must be diagnosed early and prompt surgical interference insisted upon.

FRANK B. WALKER: We must admit that the prognosis in cancer of the stomach is unfavorable under the past and present management of those cases. Heretofore the diagnosis has rested, too often, upon symptoms of advanced disease, such as cachexia, palpable tumor and gastric analysis—a stage in which no known treatment can usually be more than palliative.

At this time surgery offers the only resource, but, in order to secure more favorable prognoses, it must be adopted in an earlier stage. There are, of course, different opinions as to the relation of ulcer and cancer of the stomach. It is protested that the case is not proven but in the light of present day knowledge the circumstantial evidence goes to show that 75 per cent. of gastric cancers are grafted on ulcers, and that a gastric ulcer is a precancerous condition.

The internists are evidently not willing to allow their ulcer cases to be treated surgically as cancer cases but they should, at least, urge their treatment as ulcer cases.

Whether gastric ulcer be due to a perverted physiological function or to mechanical stasis of the pyloric strait, we do not know, but we do know that gastro-jejunostomy done bacteriologically clean and technically perfect results very beneficially in many cases of gastric ulcer.

75 Adelaide St.

STEPHEN HALES.—THE PREACHER PHYSIOLOGIST.

WILLIAM J. STAPLETON, JR., M.D.

DETROIT, MICH.

(Medical Director, Northern Assurance Co., Detroit, Mich.)

"Oliver Wendell Holmes in his 'Medical Essays' states: Medicine learned from a Monk how to use antimony, from a Jesuit how to cure agues, from a Friar how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the Eustachian tube, from a dairy maid how to prevent small-pox, and from an old market woman how to catch the itch-insect. It borrowed acupuncture and the Moxa from the Japanese heathen and was taught the use of lobelia by the American savage."

Medical Essays, 1883, Page 289.

INTRODUCTION.

As an introduction to my paper may I suggest to you that there is no more fascinating

*Read December 16, 1914, before Epsilon Chapter, Phi Rho Sigma Fraternity, Detroit, Michigan. Wayne County Medical Society Building.

hobby for a medical man than medical history. Of all men, the great men of medicine are the least known. To browse among the old books and read about the trials and tribulations of the pioneers in our arts is to realize how great are the strides made. Garrison's History of Medicine is the latest book and will prove of great value and interest to every medical student. Take for example the subject of my paper, Stephen Hales. In order to learn about him I first read the brief article in the Encyclopedia Britannica. A suggestion there led me to the public library where after some effort I finally obtained a copy of Volumn IX of British Biography published in MDCCLXXVII. The title page is as follows:

British Biography
or
An Accurate and Impartial Account
of the
Lives and Writings
of
Eminent Persons
in
Great Britain and Ireland
in which

The several incidents and remarkable actions of their lives and the particularities of their deaths that could be collected from history, family memoirs, and records, are related:

A catalogue and specimen of their writings given, with occasional remarks, and their characters delineated with freedom and impartiality.

Vol. IX
MDCCLXXIII.

In this quaint old book I read about Stephen Hales, the celebrated philosophical divine who gave to medicine the first work of blood pressure. Stephen Hales was born in the year 1677 at Rekesbourne in Kent, England on the 7th or 17th day of September. He studied at Cambridge with a view of taking holy orders. Received the degree of M.A. in 1703 and B.D.D. in 1711. One of his most intimate friends was William Stuhely, a well known physician and antiquarian, with whom he studied anatomy, chemistry, etc. In 1708, he was appointed to the perpetual curacy of Teddington in Middlesex where he spent the remainder of his life.

Hales wrote a set of books entitled: "Statistical Essays." They were three in number. Volumn I, entitled "Vegetable Statics" was published in 1727 and contained the results of his experiments in plant physiology—the loss of water in plants by evaporation—his experi-

ments led then to the following: "That plants draw through their leaves some part of their nourishment from the air."

Volume II, in which we are most interested is entitled "Haemostalikes" or an account of some hydraulic and hydiostatical experiments made in blood vessels of animals, and was published in 1733. Here he relates his experiments on the "Force of the Blood" in various animals, its rate of flow, the capacity of different vessels etc. These experiments entitled him to be called one of the pioneers in experimental physiology. Among his other studies was that of a solvent for stone in the bladder and kidneys. He devised a form of forceps for the removal of stone which was said by John Rauby, Surgeon to George III, to render the removal with "great ease and readiness." He also made studies in ventilation especially in regard to jails, hospitals and ships which everyone knows were greatly in need of in those days and I am sorry to say are much needed in many places in the twentieth century.

He invented a "Sea Gauge," a process for distilling fresh water from sea water, for preserving corn from weevil by fumigation with brimstone, and for salting animals whole by passing brine into their blood vessels.

He wrote a pamphlet entitled: "Admonition to the Drinkers of Gin, Brandy, Etc." which has been reprinted several times.

His methods of experimentings are of interest. Hales fastened a long glass tube inside the artery of a horse and thus devised the first manometer or tonometer. By means of this he made quantitative estimates of the blood pressure, the capacity of the heart, and the velocity of the blood current. These experiments are practically the same that have been used by modern experimenters in this field. Hales made the first real advance between Harvey and Poisenille.

Dogs were used quite extensively by Hales in his experimental work. In the old English is the following: "Having exercised his skill in the dissection of dogs, Mr. Hales contrived a method of obtaining a preparation of the lungs in lead, several specimens of which were preserved. He placed a musket barrel over a pan of lighted charcoal, so as to be kept in an equal and pretty considerably degree of heat; he then took the lungs of a dog, with the windpipe, and having fastened the windpipe very closely to the touch hole of the barrel, he applied a pair of bellows to the muzzle and thus poured a stream of hot air through the barrel into the

lungs. By continuing this for about an hour, so as to keep the lungs always inflated, they were at length perfectly dried in an inflated state. They were then properly placed as a mold and melted lead was poured into them to macerate, then whole substance washed off, and left a perfect cast in lead of all their fine pipes and cavities in all their various convulsions and in their natural situation with respect to each other."

His biographer states that his book, Vol. II, was dedicated to the King and naively adds:

His references, in particular, abound with a variety of ingenious conjecture, of such consequence, that even those circumstances of his undertaking, which could not but be very difficult to a person of his humane and tender disposition, did not deter him from pursuing his experiments, being conscious *in the hands of those skilled of physic, they might be of great service in explaining many of the various cases which occur in so complicated a subject, as in the human body.*

Those on the stone were made with a like view of becoming beneficial to mankind, by alleviating at least, if not entirely preventing, the terrible disorders arising from it, and the whole is applied, in a manner, becoming a clergyman, to illustrate the Wisdom of the Divine Architect, whose hand is visible in every part of the nature.

In 1732, he was appointed one of the trustees for the establishing of a new colony in Georgia. In 1733, he was honored by receiving the degree of D.D. from Oxford. From that time on he continued his experiments being honored by various societies.

Hales lived to be 84 years of age and died on January 4, 1761.

Archbishop Secker in a sermon before London Infirmary in 1754 stated:

"Dr. Stephen Hales was an ornament to his profession as a clergyman and to his country as a philosopher. 'That industry and patient thinking' was his only secret by which he was enabled to trace the wonderful analysis of nature."

Such was the truly and excellent man, whom Mr. Pope has so justly celebrated under the title of "Plain Parson Hales" and who as the Poet's Reverend Annotator observes was "not more estimable for his useful discoveries as a Natural Philosopher, than for his exemplary life and pastoral chanty as a Parish Priest."

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THE WAYNE COUNTY MEDICAL SOCIETY CLUB HOUSE.

We are publishing herewith a few photographic glimpses of the Club House of the Wayne County Medical Society. Our object in doing so is to first impart to those who have



The Wayne County Society Club Building.

never seen this admirable building an idea of the extent and conveniences of this building that is enjoyed by every member of the Wayne County Society; and, secondly to possibly stimulate other local societies to secure a similar club house for the use and enjoyment of their members.

Four inconspicuous lines lettered across a lower corner of the vestibule at 33 High street east give the only inkling to an outsider of the purpose to which what was once one of the finest private homes in an aristocratic locality is now devoted. However, the moment one crosses the threshold, and steps into the spacious hall, there comes a realization that while still a home, it is not that of a private individual. The hum of voices, the insistent jingle of a telephone bell, the men who are constantly ar-

iving and departing, lends to the place a modernity out of accord with the massive cast brass chandeliers, the heavily timbered mantels and other reminders of the affluence of former generations. Here, plainly, is a hive of industry in what to all outward appearances might be the abode of some staid Detroitier to whom the rush and turmoil of business was unknown.

There are plenty of reasons why life and activity should manifest themselves hereabouts almost any hour of the day or night. Put seven hundred and forty men in a club and you have the nucleus of an organization that will be heard from. When the membership is made up of such live wires as the physicians who hold allegiance to the Wayne County Medical Society there is certain to be something doing.

The establishment of this club has meant more to the local medical profession than many of them realize; and in this very fact the promoters of the association who labored so zealously for its establishment have reaped their richest dividends—only satisfaction, to be sure; but what pays any better in the long run?

"Do you know," said a physician whose name is a household word in Detroit, laying down a late copy of a medical journal and stretching himself out in an easy chair in the reading room on the second floor of the club house, "this place has done more to raise the standard of the medical profession in Detroit than all other agencies combined. And here is the way it has been done. When we first opened I watched with interest the attitude of those who came. A man I knew would call me aside. 'Who's that fellow over there?' he would ask, indicating another caller. When told his name, nine times out of ten he would remark, 'H'm. I never heard of him. What's his specialty?' In a few minutes those two physicians were acquainted, and were talking over professional matters. A fraternal spirit was one of the first things we set out to inculcate; and whereas when we first opened the clubhouse few members of the profession, outside of some of us oldtimers, had more than a speaking acquaintance with others, now we are more like one big family than anything else. The little professional jealousies that once cropped out rarely manifest themselves, and from the wider acquaintanceship promoted there has come a better feeling all along the line that has been beneficial alike to the profession and the general public."

OFFERS SOCIAL FEATURES.

If any member of the association fails to derive benefit therefrom it is due to the fact

that he does not make use of the clubhouse, where every facility is afforded both for social and professional advancement. The club feature is everywhere in evidence. There is a cafe, where it is not an uncommon thing to find seventy-five to one hundred doctors assembled at noon, while as many as three hundred have been served at evening functions. There are lounging and game rooms, where members can indulge in a social chat or pit their skill at popular pastimes against that of professional acquaintances. The house is always open, and there is a constant arrival and departure of physicians who have dropped in for a few min-

the advancement of the common cause. Today in the fireproof stack room there are 15,000 volumes of medical works, constituting one of the finest collections in the country, in charge of Miss Jane White, librarian. Fully 10,000 of these were contributed by members of the society. A branch of the public library is maintained here.

SOCIETY OWNS HOME.

There is also a reading room, where some hundred leading medical publications are constantly available.

The same spirit that led to the establishment



Auditorium.

utes' respite from the arduous demands of their profession, or to brush up a bit on some disputed point by having recourse to the library maintained here.

This library, by the way, is a notable feature, and for obvious reasons is the most treasured possession of the society.

In the days of the old organization which preceded the present body, some 5,000 volumes, the most of which belonged to the city, were housed in the Wayne county building, in rooms tenanted by the Society. Here the public could never have sought them out. They were inaccessible even to many members of the profession, while the quarters possessed no attractions aside from the library feature. No provision was made for an attendant, and as a consequence books wanted could often be found only after laborious search. This resulted in the books finally being turned back to the public library.

When the Wayne County Medical Society moved into its present home the public library was requisitioned for these works. The request was granted, and with these as a beginning a canvass was instituted among the membership for enlarged facilities. Physicians delved into their private libraries and contributed generously of costly medical works, donating them for



A View of the Reading Room.

of this great medical library made it possible for the Society to own its home. Dr. Arthur D. Holmes is credited with being the father of the idea. Dr. Holmes conceived the idea of a place where Detroit medics could meet in a fraternal way. Immediately he began a campaign for funds. Physicians were approached and asked to pledge a given amount, payable in annual instalments. They responded generously, and on the strength of the prospects the property on High street east was purchased. Within two years \$20,000 had been raised in this manner with which to pay for the building and equipment. At the end of another year there was a surplus of \$12,000 or \$15,000, and borrowing a sufficient amount to make up the difference, the Society began the erection of a \$35,000 addition, which contains among other

things the library and an auditorium capable of seating 425 persons.

The Society is in a flourishing financial condition, and expects to discharge all outstanding obligations in due season.

Coincident with the occupancy of the new home came a marked increase in membership. The best that could be attained under the old order of things was 300. Now there are 740, which takes in practically every member of the medical profession in Wayne county in good standing. Not every physician can become affiliated with the Society, mind you. There are rigid qualification for admission, and they are adhered to strictly. In this way the standard is maintained, and membership represents a clean bill of health that means much.

Although occupying its present quarters only about four years, the Society has assets of \$70,000.



A View of the Library Stack Room.

MANY OTHER ACTIVITIES.

If the Wayne County Medical Society was the sole occupant of the building there would be no lack of animation. However, this is a common center for various activities that have to do with the conservation of public health, all more or less closely related to the work of the Society.

An integral part of the Society, yet in a sense separate, the women physicians have a

club room of their own, where they hold their business sessions.

The Nurses' Central Directory has a room here as its headquarters, and nobody but the physician knows how much that means to the profession. Formerly it was necessary for a doctor to call up from the list of names in his possession. Now, nurses are much like other humans. They have their preferences in the nature of the cases they handle. It used to be that a doctor would have to call a half dozen nurses before one could be found that would take the case. Now he merely calls the Nurse's Central Directory, where 400 nurses are registered and classified according to their references and capabilities, states the nature of the demand, and is furnished an attendant exactly suited to the requirements.

Detroit Clinical Laboratory is quartered in the building. The dentists, the fraternities from the Detroit College of Medicine, Detroit Drug Club, Good Health League and other bodies make this a meeting place. Grace and Harper hospitals hold their staff meetings here. And on the nights when regular sessions of the Society are held the auditorium is filled with the flower of the local medical profession.

What has been done in Detroit may also be accomplished in Saginaw, Kalamazoo, Bay City, Grand Rapids, Jackson, Battle Creek and several other of our larger cities. Possibly not on such a pretentious scale as has Wayne county enacted; nevertheless, with the exhibition of the true spirit and energy local medical clubs are possible and the establishment of a permanent home for our local medical societies will secure the realization of similar benefits as have accrued from the establishment of this complete club building now owned by the Wayne County Medical Society. It requires the effort and work of but a few men in your individual locality.

Stomach Bitters.—Experiments conducted by A. J. Carlson and his co-workers at the University of Chicago show that the wide-spread use of bitter drugs as a means of stimulating the appetite or aiding digestion is a therapeutic fallacy. He finds that such drugs as gentian, quassia, calumba, hops, condurango and the elixir of quinin, strychnin, and iron do not increase hunger contractions of the stomach and the related phenomenon nor induce increased secretion of hydrochloric acid or pepsin (*Jour. A.M.A.*, Jan. 2, 1915, p. 58).

Bannerman's Intravenous Solution.—This solution was refused recognition by the Council on Pharmacy

and Chemistry because vague, indefinite and misleading statements were made regarding its composition, because it was recommended for anemia, tuberculosis and syphilis under grossly exaggerated and unwarranted claims and because the intravenous injection of complex and indefinite mixtures is unscientific and dangerous. The proprietors having submitted to the Council a revised statement of composition and a revised advertising circular, Bannerman's Intravenous Solution was again refused recognition, partly because the statement of composition was unsatisfactory but mainly because of the unscientific character of the solution and the unwarranted therapeutic claims which are made for it (*Jour. A.M.A.*, Jan. 2, 1915, p. 70).

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, January 13, 1915

The President, HOWARD H. CUMMINGS, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

TUBERCULOUS MENINGITIS AND TABES DORSALIS IN A WOMAN EIGHT MONTHS PREGNANT. DEATH DUE TO LOBAR PNEUMONIA. NECROPSY.

CARL D. CAMP, M.D.

(From the Neurologic Clinic, University Hospital, Ann Arbor, Michigan.)

The case to be reported presents several points of interest which may be summarized as follows: First, reports of the occurrence of tuberculous meningitis in association with tabes dorsalis are rare. It has been claimed that there is a certain antagonism between the infections with syphilis and tuberculosis but such has not been my experience. Second, there are several interesting points in connection with the clinical diagnosis, in addition to the demonstration of the double infection which was made antemortem and confirmed by necropsy, such as the complications of pregnancy and lobar pneumonia. Third, the distribution of the syphilitic and tuberculous lesions as shown by the necropsy.

The patient, a Mrs. B. B., age 29 years, was admitted to the Neurologic Clinic of the Hospital of the University of Michigan on July 31, 1914, as a case of puerperal psychosis, the diagnosis being based on an active delirium and visual hallucinations which had come on suddenly the day before. It was learned from the husband that she had been apparently normal mentally before that time. At first she had acted hysterically, laughing, crying, etc. and for this she was given morphine and hyoscine. A careful consideration of the mental symptoms present at the time of her admission led to the opinion that they were due to hyoscine intoxication in possibly an hysterical individual rather than to either puerperal psychosis or toxemia of pregnancy, an opinion which was justified by

the fact that all the mental symptoms disappeared in the course of the next forty-eight hours.

There was no history of insanity in the family. Her father and mother were living and well, though the father was of a nervous type. One brother was living and well. The paternal grandfather died of apoplexy and the paternal grandmother died of cancer. The patient had been married in June, 1913, and her husband said that he was entirely well and denied venereal disease. The patient became pregnant in December, 1913. The patient said that she had had measles, mumps and chicken-pox but no other diseases. She said that she had always been nervous. Menstruation was not established until she was eighteen years of age and was then irregular and painful. She said that she had a "bilious attack" in 1911, of six weeks duration, and was not so well afterwards. In October, 1913, she had an attack of pain in the abdomen and headache, diagnosed as a bilious attack. She had similar spells in December, 1913, and in February, 1914. In April, 1914, she had an attack lasting three weeks and shortly afterward another similar attack. The last attack began about July 24, the chief complaints being headache, vomiting, general aches and pains.

At an examination the day after her admission to the Hospital it was noted that she seemed a little confused mentally but was well oriented for time and place, replied promptly to questions and showed no gross memory disturbance. She was fairly well nourished. Her pupils did not react to light but did react in accommodation. Neither eyeball would turn out as far as it should and there was a low grade neuroretinitis in both eyes. She complained of some tenderness on pressure on the cervical spine. The knee jerks and Achilles jerks were not obtained on either side. There were some

vague sensory disturbances in the feet and her gait and station were not tested. The plantar reflex was flexion and her neurologic examination in other respects negative. Physical examination of the chest was negative. The fundus of the uterus rose to three finger breadths above the umbilicus and fetal heart sounds were distinct. The urine had a specific gravity of 1011. Albumin and glucose were not present. There were some hyaline and granular casts. A blood count showed red blood cells, 3,460,000; white blood cells, 5,600; hemoglobin 75 per cent. A Wassermann examination of the blood was negative.

The findings on examination were sufficient to justify the diagnoses of *tabes dorsalis* complicated by pregnancy, the pains in the abdomen and vomiting being considered gastric crises. Some additional emphasis was given this diagnosis by a neurologic examination of the patient's husband, which showed Argyll-Robertson pupils with pallor of the optic nerve head and diminished knee jerks. A Wassermann test of his blood was also negative.

The patient's temperature varied from 101 to 103°, pulse 94 to 106, and respiration 20 to 25 per minute. As the rise in temperature could only be explained by some other complication she was referred to the clinic of obstetrics and the clinic of otology but the examination of these clinics showed no cause for the fever.

A lumbar puncture showed the spinal fluid to be under considerable pressure. It was cloudy and very slightly yellowish in color. The cell count showed about 2000 per cubic millimeter which a stained smear showed to be about an equal number of lymphocytes and leucocytes. No red blood cells were seen. The Nonne-Apelt reaction, phase I and phase II, were both positive. Fehling's solution was not reduced. Tubercle bacilli were present and the Wassermann reaction was strongly positive.

She continued to have the same symptoms until August 5, at times seeming a little more comfortable. On the morning of this day she became stuporous. There was no additional rise in temperature but the pulse rate went to 160 and the respiration to 62 per minute. She lay on her side with head retracted. Her neck was only slightly stiff, however. The pupils were equal and did not react to light. There was no paralysis anywhere but sensation could not be accurately tested. The knee jerks and Achilles jerks were absent. The fetal heart sounds could not be heard. She gradually grew weaker and died August 6, 1914.

The main points noted at the autopsy were: Body emaciated. No bed sores. Uterus pregnant with an eight-months female fetus. The left lung solidified-pneumonia. An old tuberculous pleurisy of the left lung with adhesions and a scar with caseated tubercle in the center. Adrenal showed some nodules possibly tuberculous. There appeared to be a sclerosis of the heart muscle. The brain showed a purulent exudate covering the base and there was some congestion of the convexity. The spinal meninges were greatly congested. The brain and spinal cord were preserved and microscopic examination showed chronic meningitis at the base of the brain and of the spinal cord and tabetic degeneration in the posterior columns of the cord. Dr. A. S. Warthin's report on the examination of the other tissues was: "Lobar pneumonia. Chronic tuberculosis of bronchial glands. Miliary tubercles in the lungs, liver, spleen and peritoneum. Caseation of one adrenal. Pregnancy, eight months. Syphilitic chorionitis. Syphilitic myocarditis."

The pathologic diagnosis of tuberculous meningitis and *tabes dorsalis* is confirmed by the additional evidence of tabetic degeneration in the spinal cord; the positive Wassermann reaction on the spinal fluid as well as the finding of tubercle bacilli there; the signs of *tabes* in the husband of the patient; and the finding of both tuberculous and syphilitic lesions in other parts of the body by Dr. Warthin.

Although I have only briefly summarized our examinations of this case, it will be noticed that the signs of each of the conditions present were clear and the diagnosis easily made even though the clinical picture as a whole was confusing. The most instructive features of the examination were the neurologic findings in the patient's husband as well as in the patient herself and the complete examination of the spinal fluid. The onset of the pneumonia was not attended with any apparent increase in the fever but only by dyspnea and tachycardia and for this reason it was thought to be a terminal, hypostatic pneumonia rather than a lobar pneumonia as was found postmortem. The distribution of the tuberculous lesions would indicate that the pleuritic affection was the oldest, although we could obtain no history of pleurisy from the patient.

I am especially interested in the distribution of the syphilitic lesions, i. e. in the nervous system, the heart muscle and the placenta. I have recently studied some cases of hereditary syphilis affecting the nervous system and as a

part of these studies have examined the parents of these patients. I have found that in such cases the evidence of syphilis in the parents may also be practically limited to the nervous system. If the child of this mother had been born it would no doubt have shown signs of hereditary syphilis, although the parent would have been free of lesions except in the heart muscle and central nervous system.

DISCUSSION.

DR. UDO J. WILE: I should like to ask Dr. Camp how old this patient was and whether he had ever seen a patient with tabes pregnant before.

DR. CAMP: I have never seen a pregnant patient with tabes, but there are recent cases in the literature, and they have given rise to some interesting conditions in labor, the latter being entirely painless. The patient was 29 years old.

DR. F. M. LOOMIS: I should like to add a most irrelevant note to the effect that hyoscine and morphine do produce the most marked mental disturbances. Only this morning a woman who had received a single dose of hyoscine announced very definitely to the nurses and students present that to her own knowledge Dr. Loomis himself had that morning been personally delivered of twins.

SOME PHASES OF THE INFANTILE PARALYSIS PROBLEM.

CHAS. L. WASHBURNE, M.D.

(From the Surgical Clinic, University Hospital, Ann Arbor, Michigan).

During the past century epidemics of acute poliomyelitis have been reported from all parts of the world. Early reports show a small number of cases scattered over a large expanse of territory. The first American epidemic of any magnitude was one of 132 cases, with eighteen deaths, at Rutland, Vt., reported in the *New York Medical Record* of 1894. In the period from 1904 to 1907, more than 3,000 cases were reported in pandemic form in Norway and Sweden with a 10 per cent. mortality. During the year 1907 thousands of cases occurred in this country from Massachusetts to Florida and westward to Wisconsin. From 1907 to 1910 large epidemics occurred in the following states.

Year	State	No. of Cases
1907	New York	2,500
1908	Wisconsin	1,000
1909	Massachusetts	923
1909	Minnesota	1,100
1909	Nebraska	1,000
1910	District of Columbia	500
1910	Indiana	500
1910	Iowa	654
1910	Maryland	300

1910	Massachusetts	843
1910	Minnesota	1,000
1910	Pennsylvania	1,006
1910	Washington	225

The state of Michigan has been comparatively free from epidemics of great magnitude, due either to lack of efficiency in reporting these cases or to their scattered distribution. Three small epidemics have been reported; one from Oceana county, in 1907 of twenty cases; one of thirty cases from Flint and vicinity in 1908; and a third of seventy-two cases from Hillsdale in 1910. In every community of this state there are sporadic cases appearing from time to time. The remarkable uniform distribution of this disease can thus be understood. Fully 50 per cent. of all deformities entering the University Hospital are directly due to poliomyelitis. They comprise a class of cases, the treatment of which is satisfactory neither to the parents nor to the physician. The histories show that the condition has been improperly diagnosed in nearly 50 per cent. of all cases and almost never has any attempt been made to prevent the deformities. The uniform appearance of this disease has been so recent and the literature on the subject so technical that the practitioner has been made to feel that the recognition and treatment of the condition require special training and experience.

Much speculation is rife as to the method of the communication of the disease. Many careful observers have shown that it may be carried and transmitted by the stable fly, bed bug, the flea, domestic animals and poultry and by direct contact from patient to patient. Flexner's experiments on monkeys have definitely shown that the virus may exist in the spinal cord and brain and in the mucous discharges from the nose and the intestine. The virus has been shown incapable of infecting monkeys through the unbroken skin, the mucous surfaces of the alimentary canal and lungs. Flexner has also shown that it is possible to inoculate monkeys through the nasal mucous membrane and regards this as the avenue of ingress and egress in the human species, due to the intimate lymphatic connection along the olfactory nerve bulbs to the lymph spaces about the brain.

In order to treat the condition satisfactorily, a thorough understanding of the pathology is essential. We need first to dispel the prevalent idea that poliomyelitis is a local, central nervous disease, and come to understand that it is a systemic general toxemia, with selective prefer-

ences for the central nervous system. There is also uniform inflammation of not only the gray matter of the cord, but also the pia, medulla, pons and central ganglia, extending to the cortex of the brain. The anterior horn cells seem to be the part most susceptible to permanent injury.

The bloodvessels show a characteristic round called infiltration. In places the vessel walls degenerate and extravasations of red blood cells occur, causing stasis and compression, resulting in the degeneration of interstitial tissues. Softening, edema and final destruction of the ganglionic centers follow with subsequent cicatrization of the areas affected.

Wickman describes the process of secondary infection of the gray matter as an extension by continuity from infected bloodvessel sheaths, passing through the infected pia-arachnoid membrane and developing its greatest intensity in the gray matter of the cord. The infiltration has been found to be most marked in the lumbar and sacral enlargements. This is probably due to the increased compensatory circulation of these parts or to the greater range of activity of the musculature which they supply, and a corresponding over-irritation of the affected areas during recovery.

Lumbar puncture shows the presence of the virus in the cerebro-spinal fluid of monkeys before the onset of paralysis, but later examinations have shown the fluid to be sterile. Frazier, in a report of 126 examinations of the cerebro-spinal fluid, finds it usually clear, colorless and under slight pressure. In the early stages there was usually found some increase in mononuclear lymphocytes. He concludes that the routine examination of cerebrospinal fluid may be of value in early diagnosis, but has no value as a prognostic sign. As evidence of general infection, the spleen is enlarged and congested. The liver shows parenchymatous degeneration. The kidneys show cloudy swelling and the blood shows a loss of hemoglobin and other signs of hemolysis.

Diagnosis and Promising Forms of Treatment.—In the epidemic form, the diagnosis gives no trouble. It is to the sporadic cases that we must look more carefully if we would prevent the development of epidemics. The period of incubation has not been definitely determined. From two to ten days should be accepted as the most probable period in the human subject.

The prodromal symptoms resemble those of other acute infectious diseases. A period of

irritability and marked malaise with slight dizziness and headache are early signs. The patient develops an ataxia and often falls. To this fact we are indebted for the frequent traumatic histories given by the patients and friends as causes of the paralysis. It is difficult to convince friends of these patients that the injury is a result of the disease rather than a cause of paralysis. Many cases give histories of trauma in various forms, for example: Grace B. had not been feeling well for two days. Fell while skating, striking in a sitting position. She walked home and next morning was unable to stand. Had a temperature of 101°. Both legs were involved and she was unable to walk. There was marked tenderness of body and limbs on movement. She was treated by a chiropractic physician for displaced lumbar vertebrae with marked improvement (?). Two years later came to the University Hospital. Examination showed paralysis of anterior groups of both legs with resulting foot drop. A diagnosis of polio paralysis was made. The parents of this child had been advised to bring suit for damages against the owner of the skating rink and came to the Hospital for confirmatory evidences of spinal injury, which they were unable to obtain.

The general treatment during the febrile stage should be emphasized for teaching what not to do. Rest, fresh air, light, nourishing diet and brisk saline cathartics are always indicated. Drugs given with the intention of sterilizing the cerebrospinal fluid are not only useless, but often harmful. Urotropin, so highly advocated by some observers, would be better left ungiven after the onset of the disease; as a routine prophylactic measure it is of doubtful value. The central nervous system and excretory organs have sufficient to contend with without being called upon to combat the harmful effects of formalin. No one has ever given the least proof that urotropin has any effect whatever in checking the course of the disease. The early use of strychnine cannot be too much condemned. There is present a condition of inflammatory hemorrhagic meningomyelitis and any thing which tends to stimulate or render more excitable the nerve substance, already over stimulated, seems bad practice. The recent work of Flexner and Noguchi in successfully cultivating the organism of poliomyelitis in artificial culture has added greatly to the possibilities of treatment. Experimental poliomyelitis has been produced in monkeys by injections of artificially grown virus. Research has reached the stage where the development of a vaccine

or anti-toxin may be hopefully looked for in the near future. The permanent injury which follows so closely after the onset of the disease and in most cases before a diagnosis is made, renders a prophylactic form of treatment the most promising.

Stage of Neuritis.—Following the acute febrile stage with no definite line of demarcation, is a stage of acute tenderness. Any manipulation of the patient causes severe pain. Until this condition has subsided, no form of massage or manipulation should be resorted to. We do not treat other forms of neuritis by constantly irritating the parts affected, and if we wish the least possible permanent paralysis, we should keep these patients in a condition of absolute rest until all tenderness has disappeared. The tenderness may last from three to six weeks and during that time, we advocate putting the limbs in the corrected walking position and fixing them in that position on posterior right angle splints, well padded with cotton. The bed should have a firm soft mattress that the spine may be as stationary as possible. Deformities of the knee and ankle develop during this stage for several reasons. Take for example a case of involvement of the anterior groups of both leg and thigh; here an equinus may develop; first, because of gravity assisted by the weight of bed clothing resting on the toes; second, because of the weakness of the muscles involved; and third, because of the excessive contraction of the over stimulated unopposed, strong, posterior muscles. This contraction causes pain, which the patient makes an effort to avoid by flexing the knee, and here is the beginning of hamstring contraction. Two laws are here applicable: One, an unopposed muscle tendon will shorten until balance is restored by resistance of the periarticular structures; Two, a muscle in a paretic condition, if allowed to become stretched, will not return to its former position and length even though its function is restored. Bearing these facts in mind, if we wish to treat these conditions satisfactorily and prevent deformity, we must splint our patients during the stage of neuritis and not be led away by the glamour of the faradic current, manipulation and massage. It is the general practitioner, who sees these cases in their incipiency and to him we must look not only for our useful statistics, but for the prevention of deformities. It ought never to be necessary to employ cutting operations for the corrections of fixed deformities, if the proper treatment is employed during the early stage of the disease.

The Convalescent Period.—After the stage of neuritis has passed, it is a good rule to get the patient on his feet as soon as possible, employing when necessary such splints and braces as may be needed to prevent faulty positions, which later lead to fixed deformities. Any loss of muscle balance should be compensated for by appliances, and these should be fitted early and used until complete restoration of function or, in case of permanent paralysis, as long as necessary. Massage, electricity and muscle training may have their advocates, but from a practical standpoint, it would seem that the best forms of massage and muscle training are those brought about by the patient himself in exercising his limbs in as nearly as possible their normal function.

It is not within the province of this brief paper to cover the intricate and ever changing ground of surgical treatment of deformities. Several operations have been generally recognized as of permanent usefulness. Arthrodesis is of value in treating joints partially or not at all under the control of normal muscle groups, producing a permanent ankylosis in a useful position. This operation should never be done before the bones have reached their adult length, because of the liability of injury to the growth centers and subsequent lack of development.

Tendon transference is applicable in properly selected cases as a means of partially restoring function. This operation we have found most useful about the ankle joint, selecting those tendons whose actions most closely correspond to the paralysed muscles they are to replace.

Paraffine silk is successfully used to lengthen transferred tendons and to fix flail joints in a useful position. This operation requires perfect asepsis and careful attention to detail in order to produce satisfactory results.

Tenotomies are useful in correcting bad contraction deformities at the knee and ankle. This operation has been greatly abused in the past and in the hands of careful workmen is now used only when absolutely necessary. Many contracted tendons can be successfully stretched and the limb rendered more useful because the maximum of power has not been impaired by promiscuous tenotomy operations. Nerve grafting has marked possibilities, but as yet is too much in the experimental stage to be generally advocated.

Sociologic Status of Poliomyelitis.—The crying need of the times is for the state and national governments to assume as great a degree

of responsibility in checking the spread of this disease as they have already taken upon themselves in the fight against diseases of cattle and hogs. Congress stands ready at all times to send experts to study and devise means for controlling epidemics of hoof and mouth disease and to appropriate thousands of dollars for this purpose as was done by the last Congress, but in cases of epidemic poliomyelitis, their attitude is best expressed by the slang phrase, "nothing doing." For the period of nearly a century after the government was organized, Congress passed no quarantine law, nor any other law to protect the inhabitants of the United States against invasions by contagious diseases. During that time, some of the most terrible epidemics of cholera, yellow fever and poliomyelitis have gone their unfettered way.

As a nation we hold human life too cheaply and deem it good economy to care in institutions for thousands of hopeless cripples whose helplessness might have been prevented through legislative foresight. Already state legislatures are beginning to awaken to the fact that human life is as worthy of conservation as that of a Poland China. Our own state legislature, during its session of 1913, provided that all children of this state of needy parents afflicted with any sickness or deformity might be sent by the county probate court to the University Hospital for treatment at state expense. The trend of the times is toward state care of the needy and afflicted, regarding it as better economy to cure people and make them self supporting citizens than to treat them for life as invalid paupers.

To the state and nation, we must look for efficiency in disease prevention. Cities and counties cannot control outside of their own borders. The state and nation constitute the larger units. They have the financial backing of the whole people. The stamping out of a disease is a long process, requiring time, money and authority over large areas. The state of Michigan must know by this time the treacherous nature of this disease, that it robs the state of human wealth, that its very magnitude requires the full state and national power to make its suppression a success.

DISCUSSION.

DR. CARL D. CAMP: I have certainly been very much interested in Dr. Washburne's paper. I have not had much experience in the diagnosis of poliomyelitis in its acute stages and I have seen no cases before the paralysis has appeared. I have seen a few cases that were thought to be possibly poliomyelitis but I decided that they were not. At any rate, the patient did not become paralyzed. It has always

seemed to me that, although the lumbar puncture findings might be valuable in the early stages, as a matter of fact one should not use the lumbar puncture for diagnostic purposes in these cases unless there be an epidemic in the neighborhood. I have always had the idea that if a careful neurologic examination be made in the preparalytic stage, it would probably show some changes, such as lost reflexes; and it was chiefly because patients I have seen did not have these slight changes, that I decided they did not have poliomyelitis.

Dr. Washburne, I understand, does not regard the use of electricity and massage as particularly beneficial in these cases. I have passed through several stages of belief in this connection. At first I was rather enthusiastic, then I became distinctly pessimistic, and then I decided to try the thing out again for my own satisfaction. It is impossible to determine whether a recent case is improved by electricity, because one knows that recent cases have a natural tendency to improve anyhow. But taking a case after eight months, such a patient, treated by electricity, can be made to show considerable additional improvement, provided that the patient has not had any operative interference in the meantime; and provided further, that the treatment is carried out in a correct way. I found that if I allowed the treatment to be given by an assistant or interne, or if I simply told somebody to give the patient electric treatment, there was no result; but if I carried it out myself and kept at it faithfully I did get results. I am, therefore, of the opinion that probably the reason why electricity is so largely condemned in these cases is not entirely the fault of the electricity but rather the fault of those who use it.

DR. JOHN A. WESSINGER: I have been very greatly interested in Dr. Washburne's paper, especially from the standpoint of public health. I might say considerable along this line, but I will refrain because I shall have a great deal to say on this subject two weeks from tonight at the County Medical Society meeting. On that occasion we hope to bring out some things that will be worth while. I might say that I have seen fourteen of these cases in this city during the past six months. Three of the patients died, a death rate of 20 per cent. That is a pretty high mortality. Eight of the surviving patients are permanently paralyzed. I saw one man die at the age of 29, another patient, a child, at the age of 2 years. I have taken considerable pains to study the subject from an authoritative standpoint and I am inclined to think that the disease is contagious about in the same degree as typhoid fever is. It travels in waves. It does not involve the congested centers of population and goes considerably in couplets.

Of course, we all feel interested in the subject from the standpoint of orthopedics, but after all that is treating end results. If we can accomplish something in the way of prophylaxis, in my opinion, that is worth while, although orthopedic treatment has its place. I was interested in an article by Halstead of Johns Hopkins, who has recently done successful muscle transplantation. But after all, prophylaxis is the most interesting part of the subject. I have great confidence in the work of Flexner and others and believe they are on the right road. I might say that those patients who have had the

disease carry antibodies in their blood which make them immune, and with which immunity can be conferred to others.

DR. REUBEN PETERSON: Poliomyelitis has always been interesting to me. I saw sporadic cases of this disease when I was in the neurologic department of the Massachusetts General Hospital in 1887. But they were sporadic cases, since there were no epidemics at that time. As Dr. Washburne has said, the first reported epidemic was in 1894, but the disease certainly has increased remarkably since that time. I remember when I was in general practice in Grand Rapids from 1890 to 1898 I saw two or three cases of this disease. It was unrecognized usually by physicians because it had only rarely been seen in Michigan. Now, as we have learned from Dr. Wessinger, there have been fourteen cases in this small city in six months and we have had some quite extensive epidemics in Michigan.

I think possible Dr. Washburne was a little too severe on the national government for failure to spend money to stamp out these epidemics. Now in reality Congress, as I understand it, is pretty helpless in such matters. It has a certain power when it comes to the marine service and interstate commerce relations, but these patients do not come under either of these departments of the government. Because cattle do, Congress can step in and has the authority to stamp out diseases in cattle. It is not because the government is unwilling to spend the money, but because it has not the jurisdiction and the different states are very prone to resent anything upon the part of Congress as regards their boards of health or efforts to stamp out epidemics unless special national aid is asked. So I think possibly Dr. Washburne is unfair in his criticism. Flexner's work leads to the hope that state legislatures may awake to the good work that can be done along prophylactic lines.

DR. WASHBURN: I don't want to go on record as being opposed to electric treatment. The reason why such treatment is a failure is because it is not administered by competent men. It is usually left to the nurse or interne. I know one case Dr. Camp himself treated some years ago where he had good results. Another reason is that the treatment of poliomyelitis by electricity and massage leads to dependence upon that alone and almost never gives good results. It stands to reason that if a muscle is too weak to overcome an opposing member, if treated for an hour a day by electricity and manipulation and allowed to go the rest of the time in an abnormal position, i. e. stretched, you will get very poor results. My way of treating those muscles is a combination of orthopedic and neurologic treatment. If we keep these muscles in their proper condition during the part of the day when they are not being treated by electricity and massage, we then get the maximum results.

Dr. Camp speaks also of several cases where he thought he had a case of infantile paralysis and later no paralysis developed. We know that 25 per cent. and more of these patients with infantile paralysis recover perfectly and don't develop paralysis. No one need feel that he made a mistake in diagnosis because later on there was no paralysis. Any case which runs a septic course and is followed

by a loss of the use of the legs should be classed as a case of anterior poliomyelitis.

I was interested to hear Dr. Wessinger say that there were fourteen cases of this disease in this town. There are probably at the present time one thousand cases of anterior poliomyelitis in this state each year.

I should like to enter an objection to the common name of this disease. Infantile paralysis is a poor name. Eighty per cent. of the cases occur after six years of age, quite a proportion occur in adult life, and a large number die and are diagnosed as meningitis. It is a meningitis but it should be called a polio-meningitis.

FULMINATING OTITIS MEDIA, MASTOIDITIS, EXTENSIVE SIGMOID SINUS THROMBOSIS, LIGATION OF INTERNAL JUGULAR VEIN, RECOVERY.

HAROLD I. LILLIE, M.D.

(From the Clinic of Otolaryngology, University Hospital, Ann Arbor, Michigan).

The case under consideration is that of a young male patient, 19 years of age, who presented himself at the clinic November 12, 1914, complaining of pain and a sensation of fullness in the right ear. When first seen at noon, he said that the pain had begun earlier in the morning and was becoming more severe in character. There was no history of any previous attack. The patient said he had had a sore throat for four previous days.

Examination revealed an intensely red and somewhat edematous mucous membrane over the tonsils and pharynx; a small mass of adenoids covered with glairy mucus, the mucous membrane of the epipharynx presenting the same picture as that over the pharynx. In the nose there was a high deviation of the septum to the right but no obstruction. The left nares showed a sharp shelving spur with contact. Left ear, membrane slightly retracted. Right ear, some tenderness on insertion of the speculum. The membrane showed redness along the handle of the malleus, marked redness of Shrapnell's membrane and a general increase in bloodvessels around the periphery. There was no mastoid tenderness, no nystagmus, no apparent facial paralysis. Hearing test showed a slight middle ear deafness.

Diagnosis.—Acute otitis media. The patient entered the Hospital and the usual treatment was instituted.

By four o'clock the symptoms had increased and the tympanic membrane could be seen to be bulging markedly. Free incision of the membrane allowed a bloody purulent discharge to

escape. This relieved the pain. There was no mastoid tenderness.

Nov. 11, 1914.—Ear discharging profusely. Good drainage but patient complains of tenderness on pressure over the mastoid antrum and tip. Leucocyte count 18,000. That evening codein by mouth was administered. Temperature 102.6°.

Nov. 15, 1914.—Mastoid tenderness increased and more extensive, i. e. over the emissary vein. The patient looks sick, face flushed and complains of headache. The ear is discharging freely and there is good drainage with slight drooping of the superior canal wall. Temperature 101.2°. Leucocytes 18,250.

Nov. 16, 1914.—Symptoms increased. Ear presents the same picture except that the discharge seems thicker. Culture of discharge shows streptococcus and staphylococcus; temperature 103.2°. Patient complains of feeling chilly and has a somewhat septic appearance. Albuminuria, few granular casts.

temperature and change in character to a more sustained type. Leucocytes 20,000. Wound dressed, pulsation in the region of the bulb.

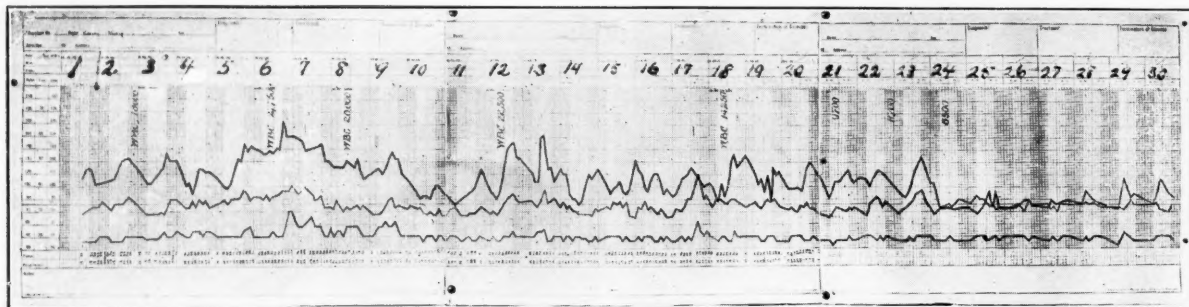
Nov. 20, 1914.—Temperature still rather constant, but patient complains of chilly sensations. Patient looks better. There is only a trace of albumin.

Nov. 21, 1914.—Considerable drop in temperature, 101°. Blood culture taken; negative. Has perspired rather freely. Patient not looking as well as he should. Urine negative.

Nov. 22, 1914.—Neck wound stitches removed, some pus. Edges approximated, mastoid clean, no bleeding from the torcular end, pulsation in the bulb end. Patient feeling better. Temperature down until 11:00 o'clock p. m., when it rose to 102°.

Nov. 23, 1914.—About noon, patient complained of feeling chilly, and temperature rose to 104°. Leucocytes 22,000.

Nov. 24, 1914.—Temperature rose to 105° at noon, chilly sensations complained of. Blood



Nov. 17, 1914.—Temperature remained at about 102° until about six o'clock when the patient had a definite chill and a rise of temperature to 105.2°. Leucocytes 27,750. Patient appears very sick, complains bitterly of pain on pressure over mastoid and stiffness of the neck. Prepared for operation.

Nov. 18, 1914.—Complete mastoid operation, ablation of sigmoid sinus, ligation of the jugular vein. The bone bled freely throughout. Cells were pus containing throughout. Granulation tissue discovered over the sinus at the knee. The sinus was opened and found filled with tunnelled clot which extended backward for a considerable distance toward the torcular. This was removed and free hemorrhage obtained. The sinus was uncovered extensively toward the bulb, but no hemorrhage obtained. Jugular vein ligated well below the facial and proximal end sutured to the skin. Good reaction from anesthetic.

Nov. 19, 1914.—Slow saline per rectum administered. There was a decided drop in the

culture negative. Patient complained of headache. Temperature dropped toward night. There was some gastro-intestinal disturbance. Wound showed nothing to account for symptoms.

Nov. 25, 1914.—Temperature at noon 99.6° and rose to 102.4° at midnight. Patient allowed to sit up in bed a short time. Wound in good condition, except in the regions of the bulb, where there is a marked pulsation. There is some pus in the lower neck wound.

Nov. 26, 1914.—Patient had a comfortable day. Temperature remained around 100° until midnight when it rose to 103°. Leucocytes 21,750.

Nov. 27, 1914.—Condition about the same.

Nov. 28, 1914.—Leucocytes 23,000. Wound in the region of the bulb about the same. Unable to irrigate through the vein into the bulb, and probe could not be passed. Pulsation marked. Operation: because of increase in leucocytes and character of the temperature, neck wound opened and extended toward the

base. Upper end of the jugular found, large amount of clot removed, and an attempt made to irrigate through and through freely, but failed. Bulb found impossible of entrance by method of Voss. Good reaction.

Nov. 29, 1914.—Temperature rose to 103° at 2 p. m. Patient does not complain.

Nov. 30, 1914.—Leucocytes 14,800. Patient has slept better.

Dec. 1, 1914.—Leucocytes 10,250. Temperature remained low with a slight rise in the afternoon. Wound dressed. Ear moist.

Dec. 5, 1914.—Patient improved. Leucocytes remain down. There is a slight rise in temperature in the afternoon. Appetite good. Forced diet given. Wound in good condition. The lips of the neck gape widely and are covered with excessive granulations. Ear is dry and no pulsation in the region of the bulb, which is filling in with granulation tissue.

From this point, convalescence was uneventful.

There are many points of interest in this case:

1. The fulminating character of the infection; mastoiditis established within forty-eight hours after the pain in the ear began: Extensive involvement of the sinus and vein within ninety-six hours. McKernon reports a case very similar following a turbinate operation. In his case, the mastoid was operated in forty-eight hours and on the eighteenth day an extensive sinus disease was operated. The vein was ligated at a level of the clavicle. Recovery. Richards reports a case in which there was facial paralysis and sinus involvement in five days. Operated and recovered. McKernon reports another case in which there was a mastoid operation within forty-eight hours and an extensive sinus and vein operation four days later. Recovery. Uren reports a case with rapid onset and extensive involvement with recovery.

2. The case illustrates the importance of the leucocyte count and graphic chart as guides to the condition of the patient.

3. The necessity for early surgical interference, when signs of sinus extension become manifest or are suspected.

4. Acute nephritis established five days after the beginning of symptoms and the cessation of these symptoms in six days.

5. The practical use for collodion and gauze dressing in reducing the size of a scar in treating an open wound.

6. Favorable prognosis usually after early interference. In the last decade the mortality

has decreased from 45 to 5 per cent. according to reports of the best observers.

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DISCUSSION.

DR. HOWARD H. CUMMINGS: The case reported by Dr. Lillie, was sent to the Hospital from the University Health Service. About the same time, another student came to the offices complaining of sore throat. The examination showed a slight injection of the vessels of the pharynx. Two days later, he returned, complaining of earache, and was referred to Dr. Canfield's clinic. In a surprisingly short time, he developed a mastoid infection and was operated upon. Whenever we find the lymphoid plaques of the pharyngeal wall inflamed and showing vesicles or pustules we make a diagnosis of streptococcus sore throat. Both of these patients showed this condition at the beginning of the disease. These are the cases which are followed by serious sequelae, mastoiditis, sinusitis, peritonitis, nephritis, etc.

Dr. Forsythe and I examined about seventy-five cases bacteriologically. When we made a smear directly from the pharynx and cultured it, we obtained both streptococcus and staphylococcus, but when the contents of the vesicles or pustules was cultured, pure streptococcus was obtained in nearly every case.

DR. R. BISHOP CANFIELD: This is one of the types of streptococcus sore throat. If the technic is perfect the culture from this type of infection shows the streptococcus practically in all cases.

This case was interesting to us from his entrance to the Hospital, when we suspected that it was a very serious infection. Following entrance he made a very marked improvement. We then suspected that we might be wrong in our prognosis. During the time previous to operation he had very little mastoid tenderness. It was only the day before he was operated that he became very sick. In other words, we were deceived by his improvements after his ear was opened. It was a difficult case to operate upon because the thrombus was tunneled and was difficult to get out of the sinus without severe hemorrhage. It was impossible to sew the proximal end of the vein to the skin and leave it open because of hemorrhage. We found it impossible by any technic which we possessed to enter his bulb thoroughly. When we tried to enter it from below we found the posterior cerebellar fossa so deep that we could not reach the bulb. We were unable to reach it from behind on account of the same peculiarity and when we tried the method of Voss we found the facial nerve staring us in the face. We were certain as soon as we noted his convalescence that he would come for a second operation even if he recovered. His true condition, however, was somewhat hidden by the fact that every time he showed elevation of temperature and leucocytosis he had

something to account for it other than his ear, some intestinal disturbance or pharyngitis. We were certain that he would have to be operated upon again when we found pus in his jugular bulb. I think we would have had a perfect right to operate upon this man immediately upon entrance because we found a mixed staphylococcus and streptococcus infection in his ear. Most of such fulminating cases come to a mastoid operation. The reasons why he went on to thrombosis was that he had rather large emissary veins running through the temporal bone. In such cases thrombosis of these veins extends into the sinus. I am quite sure that he had a thrombosis of the sigmoid sinus before we suspected it; probably he had an obstruction of his sinus as early as the second or third day of his stay in the Hospital. That was evidenced by his high leucocyte count, and by the operative findings which showed us a thrombus probably eight or ten inches long at the time of operation.

I think the treatment which Dr. Lillie gave the neck wound is very instructive. We have been accustomed to see rather objectionable scars after such operations. I recommend to those who do neck surgery the use of collodion dressings in post operative treatment. In such deep neck operations as this a gaping wound is necessary during the time when the infection is clearing up. I think to be able to secure a scar of that sort is certainly very gratifying.

DR. HARRY SCHMIDT: Was the relation between the polymorpholeucocytes considered in the case of thrombosis? Were they 80 or 90 per cent. or not so high as that?

DR. CANFIELD: I don't think so. They are always higher than normal, and frequently run 80 per cent. If they get to be 90 per cent. you are quite sure that the vein is involved. Any leucocytosis in mastoiditis is very good evidence of an involvement of the blood stream. We don't expect a leucocytosis in simple mastoiditis except in those mastoids which are diploetic. In a thrombus, in the pneumatic mastoids we don't get that. A large increase in the white count is evidence of vein involvement.

DR. LILLIE: It was difficult in this case to choose an anesthetic. The patient had an acute nephritis with marked albumin and casts, and neither chloroform nor ether was indicated. We preferred the nitrous oxide anesthetic, but were unable to obtain any in the Hospital. So we chose chloroform, which we used for a long time until the patient was not doing well, when we changed to ether. Apparently it had no effect upon the kidneys.

With regard to Dr. Schmidt's question, I have done many differential counts in such cases. The percentage of polymorpholeucocytes was usually about 80. If you count degenerates and other cells in this category, they usually rise to 85 per cent., but I don't know as they show anything in regard to the sinus involvement.

A CASE OF CONGENITAL PTOSIS AND ITS CORRECTION BY THE HESS OPERATION.

CHARLES E. ABELL, M.D.

Instructor in Reposition, University of Michigan.
(From the Ophthalmologic Clinic, University Hospital, Ann Arbor, Michigan.)

The case I wish to present is that of Miss F., age 16, who entered the Ophthalmic Ward January 6, 1915, complaining of drooping of the upper lid of the left eye, a condition which had been present since birth.

The family and personal histories were negative. The general physical examination was negative with the exception of a compensated heart lesion.

The examination of the eyes showed vision in the right eye to be 6/6 and in the left eye 6/15. The pupillary reflexes and tension were normal. There were no fundus changes. The external examination of the right eye was negative. On inspection of the left eye the upper lid was found to be in a position of marked ptosis, the lid border extending below the center of the cornea causing a marked narrowing of the palpebral aperture and materially interfering with direct vision. The skin of the lid was normal in color with no hypertrophy. The oculo-orbital fold was obliterated. On attempting to raise the eyes, only slight movement of the upper lid of the left eye was present and that was due to traction on the skin by action of the frontalis muscle. Forceful closure of the lids revealed normal action of the orbicularis. The extra-ocular movements were good.

Diagnosis.—Congenital ptosis.

Treatment of congenital ptosis is surgical and a variety of operations have been devised for its relief. The one chosen in this case by the operator, Dr. Walter R. Parker, was the Hess operation which may be briefly described as follows: After a previous cleansing of the brow and lid, followed by an application of benzine and iodine, an incision was made through the skin immediately below the brow, parallel and of equal length to the palpebral fissure. The change in the location of the incision was the only departure from the usual technic. By this change, shaving of the brow was avoided. After the incision, the skin was undermined down to a point near the lid border, care being taken not to go deeply, as a troublesome hemorrhage might have resulted. The beginning of the dissection is usually rendered somewhat difficult by the numerous muscle fibers in the skin of the brow, but by making the incision at a point as above described this difficulty is much less-

sened. The dissected lid formed a pocket, into the lower edge of which were inserted three double armed sutures, four or five millimeters from the lid border. The first suture entered the skin in the center of the lid and the two others to the sides, each being about seven millimeters apart. The skin was fixed with forceps, other on the skin at the point of intended transfixion in order to hold the lid firmly while the sutures were inserted. The needles with sutures were then passed up beneath the skin of the lid and reinserted under the brow, catching up the frontalis muscle. They emerged about two centimeters from the point of insertion. The needles of the inner thread were not inserted directly perpendicularly, but were inclined a little toward the median line. The three sutures were then tied over rolls of rubber tissue and drawn sufficiently tight to hold the lid in a position of over correction. Care must be exercised in inserting the sutures in order that the fold formed by them should correspond to that in the other eye. The threads were not drawn tightly or they would have cut through quickly and allowed the lid to fall. The skin wound was closed with several silk sutures. A nearly air tight dressing, known as Buller's shield, was placed over the eye, beneath which the moisture from the skin rapidly collected, preventing dessication of the cornea. The shield consisted of a watch glass placed over an opening in a square of adhesive plaster. Through the watch glass the eye was inspected from day to day and as occasion required the shield was removed and the eye cleansed. The skin sutures were removed in five days but the sutures retaining the lid in its elevated position were allowed to remain for twenty days. After this time they became loose and lost their hold on the lid. In case the sutures become loose early they may be tightened by twisting the rolls of rubber tissue over which they are tied.

The object of the supporting sutures is to form strands of scar tissue along their course, attaching the lid to the frontalis muscle, by which the lid may be elevated when the muscle is contracted. In addition, the skin of the lid reunites with the posterior flap at a higher point, which aids in maintaining the lid in a position of elevation. The incision heals by first intention leaving but a faint linear scar which is scarcely noticeable since it is located immediately beneath the brow.

Figure I shows the condition of the lid before operation, and Figure II the result after operation. Figure III shows a photograph of the pa-

tient taken a day after the stitches were removed. The fold is restored but the swelling of the lid, together with the undeveloped power of the frontalis to raise the lid, gives the appearance of a marked undercorrection. The appearance will be greatly improved in the course of one month's time.

True ptosis is due to an affection of the levator muscle. Among other types are the



Fig. I. Photograph of case of ptosis before operation.

following: Those due to an inflammatory condition of the eye in which there is swelling and an increase in weight of the lid with consequent drooping. This form is present in numerous acute eye affections. Those due to chronic hypertrophies which cause a permanent so-called ptosis from excessive weight. Also there are those conditions in which the skin of the lid becomes lax and hangs



Fig. II. Photograph of case of ptosis after operation.

in a loose fold before the palpebral aperture. Spasm of the orbicularis, by some classed as pseudoparalytic ptosis, is another form. An inability to raise the lids when awakening from sleep is often found in nervous women past middle life, and this condition becoming chronic or constant merges into so-called hysterical ptosis. Finally may be mentioned a form of ptosis caused by the paralysis of Muller's muscle.

Ptosis is classified as congenital and acquired.

The congenital type, as in the case presented, is due to a partial development or absence of the levator muscle. It is sometimes associated with epicanthus and absence of the superior rectus muscle. The acquired type is due either to injury of the muscle or nerve supplying it, or to lesions affecting the nerve or its nucleus. Ptosis is often associated with paralysis of the muscles supplied by the third nerve, consequently any intracranial condition which is responsible for third nerve paralysis may be considered as an etiologic factor in the production of ptosis. Among these conditions may be mentioned syphilis, brain tumor, etc. Isolated cases of ptosis in which this is the only symptom of third nerve involvement are probably central in origin. Congenital ptosis is usually bilateral, the case presented being an exception to this rule. The acquired type is usually unilateral.

Treatment of congenital and all permanent forms of ptosis is surgical. The indication for operation is an active frontalis muscle. The contraindications are an inactive frontalis muscle, absence of the superior rectus muscle, and third nerve paralysis with diplopia, where a correction of the ptosis would be more harmful



Fig. III. Photograph of case of ptosis taken one day after stitches were removed.

than beneficial, for as long as vision is obstructed, as would be the case in ptosis, no diplopia would be present. A correction of the ptosis would restore vision and diplopia would be the result.

Treatment of ptosis of the acquired type should be directed at least for a time to the underlying cause.

DISCUSSION.

DR. R. BISHOP CANFIELD: What do you consider the relationship between specific disease and congenital ptosis?

DR. ABELL: Ptosis may be seen in cases of syphilis but practically never in association with tabes. Congenital cases with entire absence of the power of the levator are not syphilitic. In this case the Wassermann was negative.

1. A CASE OF ABDOMINAL CESAREAN SECTION FOLLOWING THE INTERPOSITION OPERATION FOR UTERINE PROLAPSE, COMPLICATED BY PLACENTA PREVIA.

2. A CASE OF ABDOMINAL CESAREAN SECTION FOR CONTRACTED PELVIS AFTER EARLY RUPTURE OF THE MEMBRANES.

FREDERIC M. LOOMIS, M.D.

(From the Obstetric and Gynecologic Clinic, University Hospital, Ann Arbor, Michigan).

1. The patient, age 33, married, was operated in June, 1911 for prolapsus and cystocele, a modified Watkins or interposition operation being done. Briefly, in this procedure the anterior vaginal wall is split longitudinally, the bladder separated from the fundus and pushed up, the peritoneal cavity opened and the fundus pulled forward and anchored to the vaginal wall, i. e. interposed between the bladder and the outside world. The bladder rests high above the fundus, instead of anterior to it, and the uterus itself remains immovably in place, a living and permanent tampon, the cervix pointing sharply backward into the hollow of the sacrum. This operation distinctly contraindicates pregnancy and it has always been the rule of the clinic to sterilize by ligation and partial excision of the tubes all patients in the child-bearing age who undergo the operation.

For some reason, this patient was not sterilized. Three years later she became pregnant and promptly developed marked distress on urination and pain in walking, as might well be expected since the expanding fundus was immovably fastened to the vaginal wall. As was afterward shown the further development of the uterus took place almost entirely on its posterior wall, and the patient became comparatively comfortable.

When about seven and one-half months along in pregnancy, there occurred a sudden painless and apparently causeless hemorrhage. The attending physician, Dr. Hardy of Tecumseh, controlled the bleeding by a tight vaginal pack but was unable to make a definite diagnosis because he could not reach the cervix with the examining finger. Hemorrhage recurred five times in a week or so and the patient was as

often packed, but only after great loss of blood.

The patient entered the University Hospital December 6, as an emergency case, with a roller gauze pack in place. That the previous examinations and packing had been carefully done was evidenced by the absence of temperature and other signs of sepsis. Satisfactory examination was impossible because of tenderness and of the impossible distance of the cervix from the outlet, the external os lying far back, close to the promontory of the sacrum. However, the probable diagnosis of placenta previa was made. At this time the patient was weak and badly exsanguinated, showing slightly over two million red cells, hemoglobin 40 per cent., white cells 11,000, blood pressure 115. The urine showed a trace of albumin and several hyaline and granular casts. The fetal heart was heard with difficulty, the patient having a heavy panniculus. The estimated duration of pregnancy was slightly less than eight months.

Preparations were made for instant operative measures if necessary before the return to Ann Arbor of Dr. Peterson, who was expected two days later. The patient was put to bed, kept very quiet and ceaselessly watched, the packing being left out. She rested comfortably, with little or no elevation of temperature till 1 a. m. of December 19, when there was an alarming hemorrhage which was quickly controlled by a firm vaginal pack put into place through a large proctoscope, a surprisingly efficient means of placing packing, under sterile conditions, in the far depths of a multiparous vagina. Further delay was impossible. Version and extraction were out of the question because the cervix could not be reached. Vaginal Cesarean was excluded for the same reason and because the low implantation of the placenta would have made violent hemorrhage certain, and the patient was not then in condition to lose even a small amount of blood. Abdominal Cesarean was the only possible course of treatment by which this patient had even a desperate chance, and in spite of the history of repeated examinations and packings, this was done on the same day (December 19) by Dr. Peterson.

Operation.—A high median incision was made and the pregnant uterus delivered with some difficulty through the opening. The abdominal cavity was thoroughly packed off, the ovarian and uterine arteries clamped off to prevent bleeding, and the uterus opened. A small but vigorous female child was delivered, crying at once. A panhysterectomy was done in the usual manner except that it was neces-

sary to dissect off that part of the anterior uterine wall to which the bladder was attached, so dense were the adhesions. Gauze drainage was left through the opened vaginal vault. The abdominal wall was closed in the usual manner. Light ether anesthesia was used till the child was delivered, then nitrous oxide for a time, the operation being completed under ether. Twenty ounces of normal saline were given under the left breast before the patient left the operating table.

The Uterus.—Examination of the amputated uterus showed that its development had been almost entirely on the posterior wall, this being strikingly proved by the fact that the incision which was, of course, made through the uterine surface in relation to the anterior abdominal wall was entirely posterior as soon as the organ had contracted to a moderate degree after the removal of the child. The placenta was found implanted over the margin of the cervix.

The Child.—The child weighed four and one-half pounds at birth and has steadily improved on artificial feeding, gaining a half pound the past week.

After History.—Reaction from the anesthetic was excellent and the following morning the temperature was 98.6°, pulse 104, respiration 20. There was a sudden and alarming rise to 103.3° with a pulse of 176 in the afternoon, following a slight chill, but under stimulation and with digipuratum by hypo this fell again to normal in four hours. The red count was then 1,800,000, whites 12,250. From this point the patient became stuporous and though apparently gaining in strength, the temperature remained about 100-101°. However, early in the morning of the twelfth day the patient had a severe chill and in two and a half hours the temperature shot up to 106.4° by rectum. The patient became stuporous and though apparently at the point of death rallied and the temperature again fell to 100°. Thereafter the patient suffered a succession of similar daily flares, at no time, however, showing the usual signs of peritonitis but instead a characteristic picture of septic thrombosis with recurring dissemination. There were no signs of pulmonary embolism nor of femoral thrombosis, but the patient complained of pain in the left thigh and areas of infarction appeared on the left leg and over the sacrum. Death occurred on the sixteenth day, no autopsy being obtained.

CONCLUSIONS.

This history emphasizes the desirability of careful sterilization of patients receiving the

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When about seven and one-half months along in pregnancy, there occurred a sudden painless and apparently causeless hemorrhage. The attending physician, Dr. Hardy of Tecumseh, controlled the bleeding by a tight vaginal pack but was unable to make a definite diagnosis because he could not reach the cervix with the examining finger. Hemorrhage recurred five times in a week or so and the patient was as

often packed, but only after great loss of blood.

The patient entered the University Hospital December 6, as an emergency case, with a roller gauze pack in place. That the previous examinations and packing had been carefully done was evidenced by the absence of temperature and other signs of sepsis. Satisfactory examination was impossible because of tenderness and of the impossible distance of the cervix from the outlet, the external os lying far back, close to the promontory of the sacrum. However, the probable diagnosis of placenta previa was made. At this time the patient was weak and badly exsanguinated, showing slightly over two million red cells, hemoglobin 40 per cent., white cells 11,000, blood pressure 115. The urine showed a trace of albumin and several hyaline and granular casts. The fetal heart was heard with difficulty, the patient having a heavy panniculus. The estimated duration of pregnancy was slightly less than eight months.

Preparations were made for instant operative measures if necessary before the return to Ann Arbor of Dr. Peterson, who was expected two days later. The patient was put to bed, kept very quiet and ceaselessly watched, the packing being left out. She rested comfortably, with little or no elevation of temperature till 1 a. m. of December 19, when there was an alarming hemorrhage which was quickly controlled by a firm vaginal pack put into place through a large proctoscope, a surprisingly efficient means of placing packing, under sterile conditions, in the far depths of a multiparous vagina. Further delay was impossible. Version and extraction were out of the question because the cervix could not be reached. Vaginal Cesarean was excluded for the same reason and because the low implantation of the placenta would have made violent hemorrhage certain, and the patient was not then in condition to lose even a small amount of blood. Abdominal Cesarean was the only possible course of treatment by which this patient had even a desperate chance, and in spite of the history of repeated examinations and packings, this was done on the same day (December 19) by Dr. Peterson.

Operation.—A high median incision was made and the pregnant uterus delivered with some difficulty through the opening. The abdominal cavity was thoroughly packed off, the ovarian and uterine arteries clamped off to prevent bleeding, and the uterus opened. A small but vigorous female child was delivered, crying at once. A panhysterectomy was done in the usual manner except that it was neces-

sary to dissect off that part of the anterior uterine wall to which the bladder was attached, so dense were the adhesions. Gauze drainage was left through the opened vaginal vault. The abdominal wall was closed in the usual manner. Light ether anesthesia was used till the child was delivered, then nitrous oxide for a time, the operation being completed under ether. Twenty ounces of normal saline were given under the left breast before the patient left the operating table.

The Uterus.—Examination of the amputated uterus showed that its development had been almost entirely on the posterior wall, this being strikingly proved by the fact that the incision which was, of course, made through the uterine surface in relation to the anterior abdominal wall was entirely posterior as soon as the organ had contracted to a moderate degree after the removal of the child. The placenta was found implanted over the margin of the cervix.

The Child.—The child weighed four and one-half pounds at birth and has steadily improved on artificial feeding, gaining a half pound the past week.

After History.—Reaction from the anesthetic was excellent and the following morning the temperature was 98.6°, pulse 104, respiration 20. There was a sudden and alarming rise to 103.3° with a pulse of 176 in the afternoon, following a slight chill, but under stimulation and with digipuratum by hypo this fell again to normal in four hours. The red count was then 1,800,000, whites 12,250. From this point the patient became stuporous and though apparently gaining in strength, the temperature remained about 100-101°. However, early in the morning of the twelfth day the patient had a severe chill and in two and a half hours the temperature shot up to 106.4° by rectum. The patient became stuporous and though apparently at the point of death rallied and the temperature again fell to 100°. Thereafter the patient suffered a succession of similar daily flares, at no time, however, showing the usual signs of peritonitis but instead a characteristic picture of septic thrombosis with recurring dissemination. There were no signs of pulmonary embolism nor of femoral thrombosis, but the patient complained of pain in the left thigh and areas of infarction appeared on the left leg and over the sacrum. Death occurred on the sixteenth day, no autopsy being obtained.

CONCLUSIONS.

This history emphasizes the desirability of careful sterilization of patients receiving the

interposition operation but it appears altogether probable that the placenta previa, as the cause of repeated hemorrhage, repeated packing and very severe anemia was the direct cause of the fatal outcome. Except for the longer operation of hysterectomy following Cesarean section—and hysterectomy under difficult conditions—the operation itself was but little more hazardous than usual. I have been unable to find in English a single case of abdominal Cesarean section following the interposition operation, though there are twenty-three cases of abdominal Cesarean after vaginal fixation in the German literature of the past fifteen years, these, however, following an operation not necessarily precisely like the one under consideration. There are numerous cases of successful normal delivery following abdominal fixation. Most careful after consideration shows no other possible treatment of this patient's condition, desperate as it was.

2. A CASE OF ABDOMINAL CESAREAN SECTION FOR CONTRACTED PELVIS, AFTER EARLY RUPTURE OF MEMBRANES.

I beg leave to present briefly another case of abdominal Cesarean section occurring in the same week, both as a matter of record and as a matter of caution.

This patient entered the University Hospital December 4, 1914, showing a normal pregnancy near term. History and examination were practically negative except that the abdomen was unusually large and the external conjugate was only 17 centimeters, the other measurements being nearly normal. In other words the patient presented only a moderately severe degree of simple flat pelvis, with the fetus lying high above the inlet.

Premature rupture of the membranes occurred at noon of December 12, pains not starting till midnight of the same day. They became severe and frequent later in the morning and continued all day, the patient and baby remaining in good condition. There was absolutely no progress in the descent and the cervix was dilated only about to the size of a dollar. At 9:30 morphine sulphate, grains one-fourth were given and the patient rested for several hours. At 3 a. m. December 14, there being still no progress, the head hanging high above the pelvic inlet abdominal Cesarean section was determined upon. The patient was removed to the surgical amphitheatre and under light ether anesthesia the uterus was opened by the abdominal route about 4:30 a. m., forty hours after

the rupture of the membranes. The child was delivered twenty seconds after the beginning of the incision, crying at once. The placenta was anterior but there was no serious hemorrhage.

The patient's pulse rose to 160 almost as soon as she returned to bed and never fell, the temperature also rising steadily. There was constant abdominal pain, with other evidence of acute peritonitis, and the patient died on the second day. The child was a large healthy male with an unusually unmoulded head, and is at present in excellent condition.

The interest in this case lies in the fact that there was not a single vaginal examination made from the beginning to the end of the labor, all investigations being per rectum; in the fatal outcome of a Cesarean done quickly and easily on a patient apparently in fairly good condition except for a single factor, and in the necessity of a Cesarean at all in a pelvis of only a moderate contraction.

The single and apparently very important factor above referred to is the long interval between the rupture of the membranes and the opening of the abdomen. It is a well known fact that the danger of abdominal section increases rapidly with every hour of delay after rupture. It is an equally well known fact that to do an abdominal Cesarean on every patient with an external conjugate of 17 centimeters would be absurd, since a large majority will deliver themselves spontaneously, especially with the help of the Walcher position which increases the true conjugate diameter.

That the patient was already infected before operation seems reasonably sure from the fact that she was already in bad condition when she returned to bed after operation, and that she died from peritonitis is shown by the fact that while no autopsy was obtained, the incision was opened post mortem and streptococci were demonstrated in the purulent exudate which bathed the abdominal cavity.

As presenting a problem of great frequency and as the first death from abdominal Cesarean section by Dr. Peterson in this clinic though, to be sure, to be so soon followed by another, the case is thought worthy of record.

DISCUSSION.

DR. REUBEN PETERSON: These two cases of abdominal Cesarean section have been very interesting to us. I will first discuss the last case reported. Dr. Loomis kept me in touch with the progress of this patient and when she had been given the test of labor with the measurements recorded and there was no entrance of the head into the pelvis, the question of high forceps or Cesarean section presented itself.

I remarked to Dr. Loomis at that time that I was doubtful about the advisability of Cesarean section. On the other hand, it seemed rather a hazardous procedure for both mother and child to use high forceps on a floating head with a child probably of large size. Therefore, we chose the abdominal Cesarean section having in mind the possibility of trouble. And yet everything seemed so free from sepsis that I think that we were justified in not doing a Porro operation as far as we could tell at the time of operation. As it turned out, I think we should have removed the uterus, since in spite of appearances the patient was undoubtedly septic prior to the operation. Dr. Kamperman went over our obstetric records some years ago and found that sepsis was much more common where the patients had so-called dry labors. I had noticed this for many years in my own practice. For this reason I was doubtful about this case and yet decided to run the risks of an abdominal operation because no vaginal examination had been made.

The second case is exceedingly interesting on account of its rarity. Why this patient was not sterilized at the time of the operation, I don't care to discuss. It has been the rule of the clinic ever since the Watkins operation has been performed, that the patient should be sterilized, but in this case it was omitted. Why it was omitted was discussed afterwards, but then it was too late. The result in this case was more or less to be expected. In placenta previa itself without abdominal Cesarean section sepsis is very liable to occur. Placenta previa in a uterus where the development has taken place in the posterior wall is a very serious complication. It was impossible to reach the os in this case, so as Dr. Loomis stated, it was impossible to do anything from below. If I could have done a craniotomy here, I certainly should have performed it, because with placenta previa, and marked loss of blood which necessitated gauze packing a number of times, presumably the patient was septic. But since the os could not be reached from below there was nothing else to do but an abdominal section of the Porro-Cesarean type.

The uterus was delivered before it was incised, and also great precautions were taken to prevent the patient from losing any more blood. It must be remembered the hemoglobin was as low as 40 per cent., so the arteries were clamped before the uterus was incised. It looked as though she was going to recover and if it had not been for the anemia which favored thrombosis, she might have gotten well. There was nothing else to do in this case except the abdominal Cesarean unless we had left the patient to bleed to death, which, of course, was out of the question.

I have been interested in looking up the literature of this last operation. It is rare even without placenta previa. In twenty-two cases where abdominal Cesarean section was performed after vagino-fixation, there were six deaths, a mortality of 20 per cent. There were four with eight recoveries and two deaths. One died from

peritonitis and another from air embolism. There were six Porro operations, amputation of the cervix, with three deaths. These Porro operations were performed because of the fear of sepsis. Two died from hemorrhage and one from sepsis. There were three extirpations of the uterus with three recoveries. There was one extraperitoneal Cesarean section with one recovery. We were unable to perform such an operation in this case because of the anterior position of the uterus.

It is interesting to note that in one of these cases the patient had been operated upon twice, the first time from below without sterilization. In the second pregnancy Cesarean section was performed and she recovered. In one case there were twins, both mother and twins making good recoveries. These operations were performed at full term eighteen times out of twenty cases and twice at the eighth month. Our case is interesting because of the added complications of placenta previa. That undoubtedly led to her death for the reasons I have stated.

I wanted to have these two deaths following abdominal Cesarean section reported so as to impress upon others what has been impressed upon us, that while abdominal Cesarean section is an exceedingly simple operation, it is not simple as regards results when it is performed where there is a chance of previous sepsis. Routh has shown that after rupture of the membranes the mortality is 11 per cent. Where the membranes are unruptured with no vaginal examinations, it is between 2 and 3 per cent. The second case is remarkable because with no examinations sepsis occurred because of the early rupture of the membranes and the passage upward of micro-organisms. We fall into the habit of thinking that an abdominal Cesarean is a simple operation, but let me again impress upon you the fact that the results may be bad under conditions similar to those existing in the two cases reported.

DR. HOWARD H. CUMMINGS: The first case reported by Dr. Loomis, is unusually interesting. Several cases of pregnancy following the Watkins operation have been reported where the child was born spontaneously. It seems to me that the complication of placenta previa was the primary cause of the patient's death.

DR. LOOMIS: We recently had the unusual privilege in another case of observing the adhesions that are formed in the interposition operation. The intention is to form such adhesions that the bladder will be anchored high up and the fundus low down. In the case here referred to nothing could ever have come down. In reply to Dr. Cumming's question, while it is well known that the streptococcus is especially likely to make its way through the uterine wall into the parauterine tissues, we cannot say that such a thing happened because we cannot say that the uterus was septic before operation, and the fact that the case ran twelve days afterward makes such invasion unlikely. It seems to us more probable that the open vaginal vault made the way for the infection, the vagina being septic.

REPORT OF A CASE OF SYPHILIS WITH EARLY CENTRAL NERVOUS INVOLVEMENT.

UDO J. WILE, M.D.

(From the Clinic of Dermatology and Syphilology, University
Hospital, Ann Arbor, Michigan.)

I take the liberty of reporting a different case to you than the one which appears upon the program, a case similar to one presented before this Society about a year ago. This is a case of papulo-squamous syphilid, in which there is marked involvement of the central nervous system. The patient is quite deaf. The explanation of this form of deafness, also of the various palsies, which may occur following the initial injection of salvarsan was discussed last year, when we showed a case of seventh nerve palsy following an injection of salvarsan. The explanation lies in the theory of neuro-recurrence. It is assumed that following the injection of salvarsan there is an acute exacerbation of the preexisting meningitis. This results in edema and more or less mechanical pressure on the nerves as they emerge through the foramina. Such a case as is now before you can not possibly be explained upon such a basis because this patient has had no treatment. He has a relatively malignant form of syphilis as evidenced by loss of weight, by his general run down appearance and by the type of the eruption itself. It will be noticed that this is a follicular syphilid. We know that the follicular syphilids are likely to be malignant and precocious. The presence of deafness and of extreme headache make it most probable that there is central nervous involvement in this patient as early as the second or third month after infection. The primary sore is still present. We shall send the patient over to Dr. Camp to-morrow to determine whether he has any objective neurologic findings. Dr. Canfield examined the patient and found that he was so deaf that it was impossible to get an accurate test of his bone conduction. The case is presented to you as one of precocious malignant syphilis in association with deafness of central origin.

DISCUSSION.

DR. CARL D. CAMP: I examined this patient this afternoon. It is a very interesting case. The patient told me that he had been slightly deaf since childhood but apparently the severe deafness is a matter of only ten days or two weeks' duration. The patient seems to have no other symptoms aside from those mentioned and the objective neurologic examination is negative. He has pupils sluggish to light. On the basis of my findings I could only diagnose involvement of the eighth and optic nerves. I think that probably there has been no degenerative change so far in the central nervous system.

DR. R. BISHOP CANFIELD: I had the opportunity of seeing this man this morning and I was much interested to note the intensity of deafness so early in his disease. The deafness began about five weeks after his initial sore. The deafness at that time was no doubt of a character similar to that from which he is now suffering, that is, typically a central nervous deafness so marked for the tuning forks that an accurate test is impossible. This man's hearing test is not pathognomonic of lues because his deafness for both the high and low notes is so marked. The deafness which we consider pathognomonic is characterized by a decreased bone conduction in an ear otherwise normal. This man has probably a marked decrease in his bone conduction, but he is also deaf throughout the entire musical scale. If he didn't have syphilis he might still have such a deafness, but the fact that he has syphilis and that his deafness has followed and increased so rapidly after his lues was contracted, makes it very probable that it is specific in character. It is interesting to note that he has to-day little if any nystagmus, which would seem to argue against a very extensive basal meningitis, at least a meningitis along the vestibular tract. It is more probable that he has an internal ear lues. I think this is the earliest case of deafness due to specific disease that I have seen, unless it is the one other case which Dr. Wile referred to us, in which the deafness began about three weeks after the initial sore.

DR. WILE: I think it will be definitely shown that this patient has central nervous involvement. This is quite in accord with the findings that Dr. Stokes and myself have reported, that patients in the secondary stages at some time or other have demonstrable central nervous changes. Dr. Camp's interesting findings and those of Dr. Canfield bear out the other clinical symptoms in this case. It must be said, however, that even in the presence of completely negative clinical findings, there are not infrequently evidences of beginning involvement as shown in the spinal fluid.

Venarsen.—Venarsen, marketed by the Intravenous Products Co. for the treatment of syphilis, pellagra, tuberculosis, anemia, etc., is a secret preparation. One circular suggests that Venarsen is a sort of an improved salvarsan, but in reality it gives no clew whatever as to the real character of the preparation. Another circular suggests that Venarsen is a shot-gun combination containing arsenic, mercury and other anti-syphilitic drugs. It is not only the right

but the duty of physicians to know the essential composition of what they prescribe; a physician who uses a remedy the composition of which is kept secret, even in part, is not doing his duty to his profession nor to his patient. It is almost criminal for physicians to use a preparation of secret composition and to administer it by intravenous injection—a method which in itself is altogether likely to give rise to accidents (*Mo. State Med. Jour.*, Jan. 1915).

Case Report

A CASE OF CONGENITAL ATRESIA OF THE ESOPHAGUS.

JOHN B. JACKSON, M.D.
KALAMAZOO, MICH.

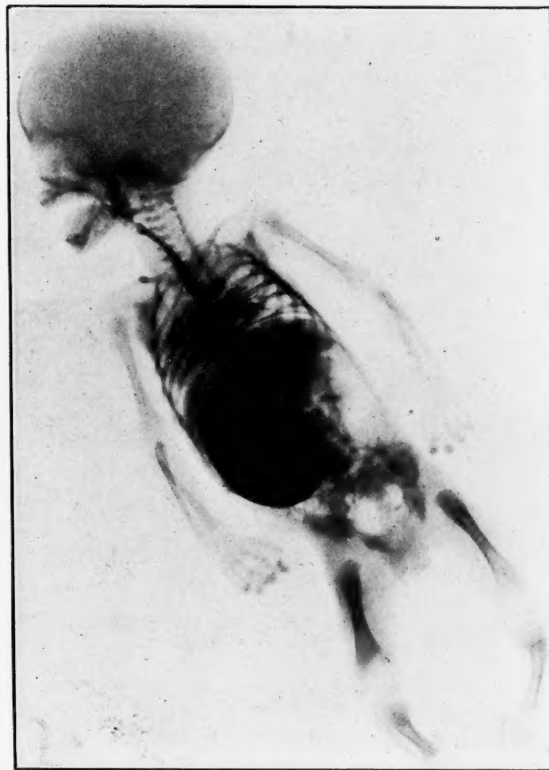
Baby B., born on Nov. 11, 1914. Weight 5½ pounds. The labor was normal but was supposed to be about three weeks premature. The baby was slightly cyanotic when born, but responded to external stimulation and became of good color after crying. In about ten minutes it became very cyanotic again and almost died. This tendency to attacks of cyanosis continued for three days. Between attacks the baby was

ful, an attempt was made to pass a tube into the baby's stomach. The tube could be felt to enter the esophagus, but after going down a little more than an inch met with an obstruction. To



Picture No. 1. X-Ray taken before death. Catheter passed into upper end of esophagus and bismuth forced in to distend it. Note gas in gastro-intestinal tract.

of good color. It had frothy mucous and saliva coming from the mouth and nose quite constantly. It seemed to have difficulty in swallowing water. When the mother's breasts filled and the baby was allowed to nurse, the difficulty in swallowing became more noticeable. It would get a few drops of milk into the mouth and then being unable to swallow it would expel it through the nose and at the corners of the mouth. All efforts at feeding being unsuccessful,



Picture No. 2. X-Ray taken after death. Bismuth forced into pyloric opening of stomach. Bismuth passes up through trachea and into the mouth.



Picture No. 3. X-Ray taken of trachea, esophagus, lungs and stomach. A ligature has been placed around the upper end of the trachea and bismuth has been forced into the stomach under considerable pressure. The bismuth has been forced out into the lungs and the X-Ray shows the bronchial tree.

determine whether this was a true atresia or merely a stenosis an X-Ray picture was taken.

X-Ray Examination.—This showed that the esophagus was a blind pouch with absolutely no opening below. The baby's abdomen was quite distended after the first day.

Diagnosis.—A diagnosis of congenital atresia was made and a hopeless prognosis given. On account of the tendency to cyanosis and the abdominal distention it seemed likely that the lower end of the esophagus communicated with the trachea.



Picture No. 4. Picture of specimen after dissection, a probe has been passed into the upper end of the esophagus distending it.

Autopsy.—The baby died of inanition at the end of eleven days. At autopsy the upper end of the esophagus was found to end in a blind pouch about one and one-half inch below the opening. The lower end communicated with the trachea at the bifurcation.

PROPAGANDA FOR REFORM

Neurosine, Divivurnia, Germiletum and Palpebrine.—The Council on Pharmacy and Chemistry reports on Neurosine, Divivurnia, Germiletum and Palpebrine, shot-gun proprietaries typical of the polypharmacy of past decades, put out by the Dios Chemical Co., St. Louis.

Neurosine is said to contain, in each fluidounce

"Bromid of potassium, C. P. 40 grains, Bromid of sodium, C. P. 40 grains, Bromid of ammonium, C. P. 40 grains, Bromid of zinc 1 grain, Extract Lupulin 32 grains, Cascara sagrada, fl. ex. 40 minims, Extract Henbane .075 grain, Extract Belladonna .075 grain, Extract Cannabis Indica .60 grain, Oil Bitter Almonds .060 grain, Aromatic Elixirs." No physician would think of prescribing all of the drugs in Neurosine for any one condition. The Dios Company urges the use of this nostrum for a host of conditions and without due consideration of its potent constituents. Not content with recommending the promiscuous use of this already too complex mixture, the Dios Co. advises physicians to combine it with other drugs.

Germiletum is a member of a large class of alkaline septs with excessively complex formulas. The formulas on different styles of Germiletum labels and circulars vary so much that one cannot tell what composition the exploiters of it intend to claim for their nostrum. Germiletum is recommended in many conditions and in a way to lead the physician to place false confidence in it.

According to the label every fluid ounce of Divivurnia contains "3/4 dr. each of the fl. extracts, Viburnum Prunifolium, Viburnum Opulus, Dioscorea Villosa, Aletris Farinosa, Helonias Dioica, Mitchellia (sic) Repens, Caulophyllum Thalictrifolios, Scutellaria Laterifolia." The label also declares that Divivurnia contains 18 per cent. of alcohol. As the named fluid-extracts in the quantities given require a much larger content of alcohol in Divivurnia, either the alcohol statement or the formula is incorrect. This complex preparation of drugs generally considered worthless is recommended by extravagant and unwarranted claims for a large number of widely differing female disorders. In a way the Dios Co. seems to recognize the inefficiency of Divivurnia, for it frequently suggests that it be used in combination with drugs of known value.

Palpebrine is claimed to be a solution of stated amount of morphine sulphate, zinc sulphate, mercuric chloride, boric acid and salicylic acid. It is termed "A Reliable External Ocular Antiseptic." It is asserted that "With the assistance of Palpebrine the general practitioner can successfully treat all cases of external eye disease ordinarily encountered in his practice." Even more dangerous is the recommendation of Palpebrine for the prevention of ophthalmia in the newborn (*Jour. A.M.A.*, Jan. 9, 1915, p. 165).

Sedobrol "Roche."—Sedobrol (Hoffman LaRoche Chemical Works) is stated to contain "17 grains Sodium Bromid, 1.5 grain common salt, fat and seasoning" and to furnish "on solution in hot water, a very palatable Bouillon." The advertising "literature" advocates its use for stage fright and arteriosclerosis and recommends the use of a large dose of bromid in the guise of a cup of bouillon in many conditions. It is even recommended to use Sedobrol in place of salt, simply to flavor food. The Council on Pharmacy and Chemistry held that Sedobrol, Roche was unscientific, that unwarranted therapeutic claims were made for it and that there was evident intention to mislead both patient and physician into useless and pernicious medication (*Jour. A.M.A.*, Jan. 2, 1915, p. 71).

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MARCH

Editorials

IMPORTANT:—THE HARRISON BILL REQUIRES EVERY PHYSICIAN TO REGISTER.

The Harrison bill becomes an internal revenue law on March 1st. It is important, to avoid government penalties, that every physician in Michigan attend to complying with the following requirements:

1. Register with the collector of Internal Revenue for your District (Detroit or Grand Rapids), on or before March 1st.
2. Declare to the collector of Internal Revenue the amount of opium or of its derivatives that you had in your possession on March 1st.
3. Secure the government prescription blanks upon which write all your future prescriptions for opium or its derivatives.
4. Keep a duplicate of these prescriptions on file for two years.

The following are detailed features of the law:

REQUIREMENTS OF THE HARRISON LAW.¹

The Harrison bill, which has been before Congress for the last two years, became a law, Dec. 17, 1914. Official copies of the law and the regulations for its enforcement have been issued by the Commissioner of Internal Revenue. While the provisions of the bill were discussed at length during its consideration in Congress, so many modifications took place that a general summary of the law as finally enacted seems advisable.

THE SECTIONS.

Section 1 provides that on and after the first day of March, 1915, every person who produces, imports,

1. Journal A.M.A., Feb. 6, 1915.

manufactures, compounds, deals in, dispenses, sells, distributes or gives away opium or coca leaves or any compound, manufacture, salt, derivative or preparation thereof shall register, with the collector of internal revenue of the district, his name and place of business, the office of a physician, or residence in the absence of an office, being considered the place of business. At the time of registration and on the first day of July annually thereafter, each person who performs any of the acts covered by the bill must pay to the district collector of internal revenue a special tax of one dollar per annum. Officers of the United States government lawfully engaged in purchasing such drugs, or officers of any state, county or municipality purchasing drugs for public hospitals, are exempt.

Section 2 provides that it shall be unlawful for any person to sell, barter, exchange or give away any of the specified drugs except in pursuance of a written order from the person to whom the drugs are sold or given, which order must be on a form issued in blank by the Commissioner of Internal Revenue. These orders must be made out in duplicate, one copy to be written by the person ordering the drugs and other by the person filling the order, and both copies must be accessible to the revenue officer for a period of two years. The following acts are exempt: The dispensing or distribution of any of these drugs to a patient by a physician, dentist or veterinary surgeon, registered under this act, in the course of his professional practice only, provided the person dispensing shall keep a record of all such drugs for a period of two years. The filling of a prescription written by a physician, dentist or veterinary surgeon, registered under the act, is also exempt. Such prescriptions must be dated and signed by the physician and must be preserved by the druggist for a period of two years. The various forms and blanks required shall be furnished by the Commissioner of Internal Revenue at a price not to exceed one dollar per hundred.

Section 3 provides that any registered person shall on request of the collector of the district render a sworn statement of the quantity of the prescribed drugs received by him during the past three months and the names of the persons from whom they were received.

Section 4 forbids interstate commerce in these drugs, except by a registered person, common carriers being exempt.

Section 5 provides that all records shall be open to the inspection of the officers of the Treasury Department or officers of any state or territory or municipality charged with regulating the traffic in the specified drugs. Certified copies of returns can be secured from the collector of internal revenue by state or municipal officers. The disclosing of information except for the enforcement of the act is forbidden.

Section 6 provides that the act shall not apply to the sale, distribution, giving away, dispensing or possession of preparations which do not contain more than two grains of opium or more than one-fourth grain of morphine or more than one-eighth grain of heroin or more than one grain of codein or any salt or derivative of them in one fluidounce, or if a solid or semisolid prepara-

tion, in one avoirdupois ounce, or to liniments, ointments, or other preparations prepared for external use only, except those which contain cocain or any of its salts or alpha or beta eucain. Decocainized coca leaves or other preparations of coca leaves which do not contain cocain are also exempt.

Section 7 provides for the extension of all internal revenue laws so as to make them applicable to this act.

Section 8 provides that no person not registered under the provisions of this act shall have in his possession or under his control any of the specified drugs, such possession or control to be presumptive evidence of the violation of this act. Employees of registered persons, nurses under the supervision of physicians, dentists or veterinary surgeons registered under this act or the possession of drugs in accordance with a prescription of a physician registered under the act are exempt.

Section 9 provides a penalty of a maximum fine of \$2,000, imprisonment of not more than five years or both for violations of the law. Section 10 authorizes the Commissioner of Internal Revenue to appoint necessary persons to enforce the law. Section 11 appropriates \$150,000 for carrying it out, and Section 12 provides that this act shall not amend or repeal the previous laws on this subject.

THE REGULATIONS.

The regulations are somewhat more illuminating, as they form the application of the law to specific conditions. The registration fee for the period remaining from March 1, 1915, to July 1, 1915, is prorated at 34 cents, remittance to be made in currency, money order or certified check. Application for registration blanks should be made to the collector of the district. Each application will be given a registry number which will be permanent and which will be entered on all blank orders issued to the applicant. All applications will be recorded alphabetically by classes, and coupon stamps to the amount of the special tax required will be furnished by the collector. Orders for any of the specified drugs must be made on the prescribed form, supplied by the collector of internal revenue bearing the registry number and signature of the person ordering the drugs. All orders must be in duplicate, the duplicate retained by the maker and the original by the person filling the order, and both copies must be kept on file for two years in such a way as to be readily accessible to the inspecting officers. A written order is not required for the dispensing or distribution of any of the specified drugs to a patient by a physician registered under this act in the course of his professional practice, but a record of drugs so dispensed must be kept by each physician in a suitable blank book to be provided by the physician, the records showing the date, the kind and quantity of drugs dispensed and name and residence of the patient to whom the drugs were given. Prescriptions must be dated and signed on the day issued, and must contain the name of the physician and the name of the person for whom the prescription is filled. Druggists are required to file such prescriptions separately or else to keep a separate record of such prescriptions, showing the file number in each case. In addition

to the signature of the physician, the prescription must state the registry number, the location of the office of the physician and the name and address of the person for whom such prescriptions are written. Druggists are required to refuse to fill prescriptions that are not so signed, or any prescriptions that they have reason to suspect were fraudulently issued. The dispensing of such drugs by druggists, except in accordance with the physician's original prescription, is forbidden. Refilling of prescriptions containing habit-forming drugs is therefore prohibited under this law. Each person dispensing these drugs directly to consumers is required on the first day of March, 1915, to prepare and keep on file an inventory of all such drugs on hand at that time.

Copies of the law, and the regulations with an appendix giving the collection districts and the address of the collectors of internal revenue for each district, can be obtained from the Commissioner of Internal Revenue at Washington or from the collectors of the various districts. The pamphlet is Internal Revenue Regulations, No. 35, dated January 15, 1915.

THE HARRISON LAW AS APPLIED TO PHYSICIANS.

After three years' discussion, this bill has finally become a law, being signed December 17, 1914, and becoming effective March 1, 1915. Its object is to limit the sale of habit-forming drugs to legitimate purposes by requiring a record of all transactions in such drugs. Any physician who dispenses or prescribes any drug preparations containing opium or coca leaves or any of their derivatives is required to register with the collector of internal revenue of his district and to pay an annual registration fee of one dollar. This is prorated for the period from March 1, 1915, to July 1, 1915, at 34 cents. Physicians dispensing their own drugs must use the blank prescribed by the commissioner of internal revenue in ordering their supplies, and must keep a record of all habit-forming drugs dispensed to patients. Physicians prescribing drugs must sign their full name and give their registration number with the name and address of the patient on each prescription. All persons having such drugs in their possession March 1, 1915, must make an inventory of such drugs showing exactly the amount on hand at that time. This inventory, which must be verified by affidavit, is kept by the individual and is not filed with the commissioner. One important point of controversy between the physician and the druggist is settled by the ruling of the commissioner of internal revenue. Only the original of prescriptions containing these drugs can be filled. The refilling of prescriptions is forbidden. Patients desiring an additional supply of such drugs must procure an original prescription from the physician. The law also requires a general registration of all physicians, dentists, druggists and veterinary surgeons, and only such persons will be allowed to dispense or prescribe these drugs. This law is a legislative experiment. Some time, many regulations and several amendments will probably be necessary before it can be reduced to smooth working order. In the meantime, physicians should at once take two precautions: They should make immediate application to the deputy commissioner of internal revenue of their district for registration, and they should

make an inventory of all drugs and drug preparations in their possession containing opium or cocaine, so that when the law goes into operation, March 1, each physician may have written evidence of the amount of these drugs in his possession at that time. Whether or not it will be possible to put so sweeping a measure into effective operation in so short a time remains to be seen; but physicians can give material assistance in the enforcement of the law, and can relieve themselves of any danger of embarrassment by taking these two steps at once.

THE MEDICAL AND DENTAL PROFESSIONS.*

Reviewing the history of medicine from the present time to the earliest authentic records, we find closely associated with it, the practice of dentistry. The early Greek, Egyptian and Assyrian dentistry was not a distinct science but merely a branch or specialty of the broader profession. From the time of Avesta, Plato and Herodotus, we find that specializing in the different branches of medicine was a common, if not regular, practice and many of these specialists exercised their arts only on the teeth and adjacent structures. Coming up through the years, the same conditions still hold until comparatively recently. It was in 1839, when the Baltimore College of Dental Surgery was incorporated, that dentistry took its place in the professions as a definite and distinct science, which, however, is based on many of the same general fundamentals as the mother-science. The study of pathology, anatomy, therapeutics and pharmacology is as essential to the dentist—though in a less degree—as to the physician.

At the present time there is no sharply distinguished border line between the two professions and our work is so closely associated that it is only by a friendly and intelligent co-operation we are able to render the best services to the general public. A very prominent physician has said: "A keener insight of dentistry would serve to make us all better physicians," and it is true, certainly, that a broader knowledge of medicine will enable dentists to get the most out of their work. Of course, a complete and detailed education in the anatomy and pathology of the whole body would be as unnecessary to us as the technic of cavity preparation and porcelain shading would be to you. What we are mutually interested in, are the conditions, pathologic and otherwise, which we severally meet occurring more or less in each profession. To be specific in a few instances:

In oral hygiene, we have an example of perhaps the greatest and most important mutual interest and it is here that the physician's broader education in dentistry would prove to be possibly of the greatest value. In the case where he is called upon to remedy some systemic disease, were he sufficiently acquainted with the value of oral prophylaxis, he would realize that the sterilization—as far as possible—of the mouth, is as important to the patient's welfare as the sterilization of the water he drinks and the regulation of his diet. When the body vitality is low, when ingested drugs and regurgitated stomach fluids, which are acid in most cases, work havoc on the teeth and gums, decay, erosion and pericementitis are almost certain to follow. It is here that a few words of instruction from the physician would be of great benefit. The patient or his nurse should be impressed with the value and necessity of the hygiene of the mouth and directed to thoroughly cleanse his teeth several times a day, especially in the morning and the last thing at night.

Rigg's disease or pyorrhea alveolaris is another field wherein the dentist and physician can work in unison to accomplish the best results. Most scientists agree that pyorrhea is in many cases not a local disease but rather a localized manifestation of some systemic pathologic condition, caused by the infection, whatever it may be, following the line of least resistance and finally appearing around the teeth where it finds a media ideal for propagation. The toxins from this infection are returned to the system as a whole by being swallowed with the food, saliva, etc., thus completing the cycle that every physician and every dentist should understand: the chronic conditions accompanying pyorrhea, causing pyorrhea and being caused by pyorrhea. We dentists are not sufficiently educated in medicine to treat this disease systemically. Our best efforts usually are to scrape and polish the teeth in the infected area, removing all foreign material and applying a counter irritant or something similar to stimulate the growth of healthy tissue and perhaps prescribing an antacid or a saline cathartic. When we have done this *our* limit is reached, and we then should refer the patient to his physician and co-operate with him to discover and remove the conditions resulting in the disease and thus assure as far as humanly possible, a complete and permanent cure.

One of the commonest conditions a dentist meets with in his daily practice is mal-occlusion which causes improper and incomplete mastication.

*Read before the Manistee County Medical Society, January 5, 1915, by W. S. Forth, D.D.S.

tion and therefore malnutrition to a greater or less degree. The causes affecting the occlusion of teeth are many and varied, ranging all the way from heredity to thumb-sucking in infants. Some come entirely within the field of the dentist, while in others the physician only is concerned. Take for example the habit infants form of sucking the thumb or the so-called pacifier. The physician is often called into the home to treat children much too young to be under our care. A few words in regard to the evils resulting from this habit—the narrow arch, and irregular, illy-formed teeth would do as much toward producing good occlusions as months of our work would do later. Another common cause of irregular teeth is adenoids and tonsils. In the former, the mouth breathing will often cause the high narrow arch, protruding upper centrals, thick lower lip and receding chin characteristic of this class of malocclusion. Enlarged tonsils quite frequently result in an undershot jaw due, no doubt, to the child's habit of protruding the chin and thus producing the irregularity. An early removal of these obstructions, all other conditions being favorable, would probably assure regular articulation of the permanent teeth. Extraction either of the permanent or deciduous teeth is without a doubt the most common cause of malocclusion. An aching tooth does not necessarily imply the need of extraction. A treatment properly applied alleviates the pain just as quickly and without ruining the natural occlusion of the remaining teeth. Fortunately the physician who uses the forceps regardless of results is the exception rather than the rule.

Facial neuralgia illustrates a case where the physician and dentist can combine to afford the patient relief. The majority of cases of this malady may be traced directly or indirectly to local conditions of the teeth such as pulpitis, calcific deposits, pericementitis, impactions and cementosis. By working together both in diagnosis and local and systemic treatment, definite results should be more easily and surely obtained.

In regard to the care of the teeth in pregnancy. A pregnant woman is not so ready to inform her dentist of her condition as she is her physician and here is his chance to co-operate with the dentist. The old adage, "An ounce of prevention is worth a pound of cure" is very well illustrated here. Many times in pregnancy the gums are irritated and inflamed about the necks of the teeth due probably to changes in the blood and lack of care. Salivation also often

occurs especially during the last few months and hyper-acidity of the saliva is nearly always present and as Black so aptly puts it, "You may sometimes have acidity without caries, but never caries without acidity." Recommending your pregnant patient to her dentist in the first few months will go a long way towards decreasing any nervousness and irritability that might result from diseases of the teeth and gums. The old saw, "For every child a tooth" need not apply if proper care is exercised at the right time.

Diseases of the mouth such as tumors, cysts, ranulas, antral infections, etc., are hardly in the realm of the ordinary dentist, but nevertheless, he can often be of assistance to the surgeon in the cure of these diseases either in diagnosis or by helping to locate and remove—or correct—the causes resulting in them.

Dr. Stewart, of New York, claims that many times serious systemic or organic troubles may be suspected and then diagnosed from early symptoms in the mouth when they would not otherwise be suspected until a much later time. Among these diseases he names tuberculosis, syphilis, Bright's disease and diabetes. Talbot says that the gums are the first structure in the body which indicate systemic defect and Dr. Mayo goes on record as stating that the next great field of preventive medicine must be opened up by the dentists. On the strength of what these leading representatives of both professions claim, I have no hesitation in stating that co-operation with, and education of each other will make us better physicians and better dentists and enable us to increase the field of our several professions materially.

Editorial Comments

Do not fail to register under the Harrison Bill which goes into effect March 1st. The fee until July 1 is thirty-four cents. Registry is made at the office of the U. S. Collector of Internal Revenue either in Detroit or Grand Rapids. A full comment on the law will be found on the editorial page. It applies to every physician.

A large delegation of Michigan Physicians should attend the A.M.A. meeting in San Francisco in June and aid in securing the selection of Detroit as the place for holding the 1916 meeting. The entire expense of the trip is

reasonable and the opportunity of combining pleasure and profit is unusual. An excellent opportunity for making that western trip presents itself to you. Better plan on going now.

The information reaches us that certain physicians along the northern part of Monroe county are in the habit of charging 30 cents for office consultations, which price includes medicines. Also that a certain physician in the same county publishes the fact that he starts a savings account in a local bank for the amount of \$5.00 for every child that he delivers.

The former condition of affairs is a sad commentary upon the reputation and business integrity of the doctor who will give his time, advice and medicines for 30 cents. If they are appraised at that price they automatically become stamped as worthless and that individual should pull down his sign, bury his diploma in his trunk and set out seeking employment as a factory hand or itinerant vender of pins and thread. The individual who is starting a savings account for each infant may be an excellent advertising man for a bank, but falls far beneath the dignity of the profession and deserves nothing but severe condemnation for the folly of his ways.

The Monroe County Medical Society might well arouse itself and take such steps as will secure the correction of these practices in their county.

There is a fraternal organization known as "Eagles" which employs one or two physicians to render the necessary medical and surgical attention to the members of this lodge at a yearly assessment of \$1.00 per member. This practice has been adversely commented upon on several occasions and no reputable physician will agree to render an unknown quantity of professional services for no further remuneration than a dollar a year per family. The climax was reached, however, when within the past few months a lodge of Eagles in one of the northern counties of the state instituted a campaign for new members. Two teams of solicitors were formed. Each of these teams had as captain a local physician. Two medical men directing the campaign for new members and thus soliciting families whom they agree to attend for one dollar per year per family.

We are undecided whether to cry out: "God forgive them for they know not what they are doing," or to pronounce a harsh condemnation. Any member of the profession stooping to such

low regions of lost professional integrity is committing a travesty upon himself and the people of his community. Their reason and judgment has vanished and they have become bereft of the right to associate with honorable men.

Recently, while on a railroad journey, we came across a folder setting forth how that particular corporation was safe-guarding its passengers in providing clean coaches, analyzed and certified drinking water and sanitary bedding in the sleeping cars. A further description was given as to how the Safety First movement was being instituted among its employees and the expense thereby entailed.

The thought occurred, that commendable as is the work thus described, why not take a step of advancement. In spite of the effort put forth for increased safety the law of averages daily develops a certain percentage of injuries on and around trains. Some are trivial and some are so serious as to produce open wounds of lesser or greater degree. It has also been established that the final result of any injury producing a wound is greatly influenced by the care that wound receives during the first few moments after its infliction; that the great desideratum is to promptly cover that wound with a sterile protective dressing to prevent infection with its dismal troupe of potential eventualities.

In view of which we deem it advisable that every engine, coach, caboose and station be equipped with at least two or more first aid packages containing sterile gauze bandage and triangular bandage, and that trainmen and depot attendants be properly instructed how to promptly apply them in every instance where a wound is sustained.

The cost of thus equipping a railroad is not prohibitive. The time was, and in instances is yet, where these same railroads equipped every passenger and baggage car with a saw, sledge hammer and axe for emergency use in wrecks. In the present day, with steel coaches, such tools are of little avail. The possibility of their need was comparatively rare yet the expense of securing them did not prevent their placement in the cars. The need of a first aid package is of greater importance and need today and their cost is much less than the price of the mentioned wrecking tools. Consequently cost and expense cannot be advanced as a refuting argument.

A little agitation of the subject would bring about the institution of the suggestion here advanced. Personally we have experienced five

occasions where the absence of such surgically clean bandaging was felt; in two instances they would have been means of a financial saving sufficient to equip several hundred cars with first aid packages.

The employers obligations to his employee sustaining an injury is recognized. In a like manner should a similar responsibility be recognized by transportation officials in regard to their patrons. Eventually the first investment would cause a subsequent demand that would be overly satisfactory accruing from a lessened number of fatal or permanent injuries that require a financial settlement to assuage the result that might have been but transitory were a first aid package available at the time the injury occurred.

Your dues, if unpaid, must be received at this office not later than the 20th of this month if you are desirous to continue to receive *The Journal*, remain in good standing in the Society and participate in the protection afforded by the defense league. Remit to your county secretary at once.

The next meeting of the Clinical Congress of Surgeons of North America will be held in Boston during the week commencing October 25.

We have been able to secure contracts for advertising space from the following firms: W. B. Saunders Co., medical book publishers; Squibb, manufacturing chemists; Hope Hospital, for the ethical treatment of the liquor and drug habits; Santa Fe Ry. Co., the popular California route; O. & W. Thum Co., fly paper and tree protector manufacturers. These firms merit your patronage. In a like manner do also our older advertisers. They are all reliable firms and our members are in duty bound to think of them and demonstrate to them that *The Journal* is a valuable advertising medium. Do not forget to patronize our advertisers first and in preference to all others.

Correspondence

Chicago, February 9, 1915.

Dr. Frederick C. Warnshuis, Editor.
Grand Rapids, Mich.

Dear Sir:

Under separate cover I am sending you a reprint from the Medical Recorder, "Treatment of Drug Addiction and Alcoholism" and will be greatly pleased if you can give this article a notice in your Journal and a synopsis if you have the room, in

order to especially bring the service that we are able to give here to the attention of those who need treatment for the correction of drug addiction and alcoholism. The first of March a general law goes into effect regarding the use and sale of drugs, and your influence, coupled with the results that I am delivering and the endorsements which I am receiving in Chicago, will help physicians to a knowledge that we are delivering a medical result far beyond the ordinary. We have treated some of your Michigan people with perfect results, but as with cases of this kind, I cannot and do not make use of the misfortune of those who place themselves under my care to secure increasing new business.

I conduct a Sanitarium exclusively for the treatment of drug addiction and alcoholism, as my ad in your *Journal* states, and personally look after the treatment and have nurses that I have trained in the work for this purpose.

Thanking you for your personal influence in your *Journal* in presenting the preparedness of my Institution to handle such cases successfully, I am

Very truly yours,

WM. K. McLAUGHLIN, Superintendent.

Deaths

Dr. John F. Hicks.

Resolutions adopted by the Menominee County Medical Society on the death of Dr. John F. Hicks:

Whereas, In view of the loss we have sustained by the death of our friend and associate, Doctor John F. Hicks, and of the still greater loss sustained by those who were nearest and dearest to him, therefore, be it

Resolved, That, as a just and fitting tribute to his memory, we express our regret at his removal from our midst, and we mourn for one who was in every way worthy of our respect and esteem, and, furthermore, that we sincerely condole with the family of the deceased on the dispensation with which it hath pleased Divine Providence to afflict them, and we commend them for consolation to Him who knoweth best and who doeth all things well, Further, be it

Resolved, That this heart-felt testimonial of our sympathy and sorrow be spread upon the Records, and that a copy of it be conveyed to the family of our departed friend and brother by the Secretary of the Society.

Signed,

B. T. Phillips,
R. G. Marriner,
H. A. Vennema.
Committee.

A Tribute to the Memory of the Late Dr. John F. Hicks by one who had worked beside him for nearly forty years:

He was born in Blenheim, Ontario, May 27, 1838, and died in Menominee, Mich. Oct. 16, 1914. His boyhood days were spent on a farm in the then wilds of Canada. The early events, a thirst for an education and after gaining what was to be had in the local schools, he taught for a time and then entered the University of Michigan. During his vacations he practiced in Wisconsin, the first summer in Green Bay and the next in Appleton, where he met Miss Jean McPherson, a graduate of the Lawrence University to whom he was married. The result of the union was one daughter, who died in infancy, and three sons, Ernest, Walter and Earl. Mrs. Hicks died in Menominee in 1890, but still lives in the memory of the older residents as one much beloved and sincerely mourned.

After graduating from the University of Michigan in medicine in 1865, he returned to his home in Canada but since his diploma was not recognized there, he was compelled to spend a year in Toronto University receiving an additional degree therefrom. He then entered practice in his home town but soon removed to Duart, a small country place where he remained ten years, engaged in a most laborious work covering a territory of fifteen miles in each direction. With few medical men within reach he was necessarily thrown upon his own resources and I opine that this experience coupled with the fact that the atmosphere of his home was of so high a literary order, broadened and enlarged a mind early interested in scientific matters.

He appeared among us in 1877 in the prime of his mental and physical manhood. He possessed a well stored mind, was a ready speaker, and at all times championing the cause of humanity. He entered upon his professional and civic life here with great enthusiasm. He occupied many places of trust and responsibility serving as a member of our State Legislature, several times in the City Council, and for many years Health Officer of this city and county physician. He was also long a member of the U. S. Board of Pension Examiners where he gave useful service and I can attest that he always treated the old veterans with marked consideration and fairness.

In the performance of these various civic duties no taint of suspicion ever arose as to his honor. Professionally he affiliated with the

American Medical Association, the Wisconsin State, The Fox River Valley, Upper Peninsula, and local Medical Societies. While Health Officer he was a pioneer in the agitation for the purity of the water and milk supply, first advocating the tuberculin test of cows, and other measures for the protection of the health of the community.

By us who worked with him through the years, he was recognized as a man well grounded in the profession, wise in council, and kind in the sick room, giving all that was in him to the afflicted. He had no fine spun theories, no bluster for show, simply a plain hearted man, glorying in the relief of suffering and utilizing only those remedial agents, the effect of which he fully understood.

The Doctor was married in 1894 to Mrs. Catherine Ramburger of New Jersey. She, with Dr. W. R. Hicks of Menominee alone survive him, and he is mourned not only by his medical confreres but by the community as a whole, which he served so long and so well.

B. T. Phillips, M.D., Rush '70.

Dr. Homer D. Hodge of Jackson, aged 60, died January 26 at the State Hospital, Kalamazoo, where he has been confined since Jan. 9.

Dr. Eugene Grignon of Menominee died Feb. 2, 1915. Dr. Grignon was one of the best known physicians in that part of the country. He was a member of the A.M.A., the M.S.M.S. and the Menominee River Medical Association. He is survived by a widow and one son.

Dr. E. O. Chapoton, one of the leaders of his profession, died at his home, 370 Woodward Avenue, Detroit, Feb. 6. Dr. Chapoton was 62 years old. His death was entirely unexpected, and followed a regular day's work.

Resolutions adopted as the sentiment of the Faculty of the Detroit College of Medicine and Surgery, at a meeting held Monday, February 8, 1915.

Whereas, Our friend and colleague, Doctor Edmund A. Chapoton, after a long and active career of usefulness, has been suddenly removed from our midst by death, to our great and heartfelt sorrow, therefore be it

Resolved, That in this dispensation of the Divine Will we feel most keenly the stroke which has deprived us of the counsel, companionship and assistance of one whose many excellent qualities of mind and heart had endeared

him to each and every member of this institution;

Resolved, That in his eminent abilities, untiring energy, and amiable character, we recognize all the qualities that go to constitute the honorable physician: a mind alert and observant, a keenly discriminating judgment, and diligence in study marked him as a teacher;

Resolved, That our sympathy and sincere condolence are hereby tendered to the family.

EUGENE SMITH,
DANIEL LAFERTE,
DAVID INGLIS.

Committee.

Dr. Gerald O. Edmunds of Honor died suddenly of apoplexy Thursday, February 11.

Dr. Wm. Breakey

In the death of Dr. Wm. Breakey, for more than a half century a member of the medical faculty of the University of Michigan, Ann Arbor loses one of its oldest and best known citizens. Dr. Breakey was a Mayflower descendant and a native of New York State. He is survived by a widow, a daughter and one son, Dr. James F. Breakey of Ann Arbor.

State News Notes

With a reception for the public in the afternoon and evening and a meeting of the Marquette County Medical Society in the evening followed by a supper, the new St. Luke's Hospital was formally opened January 28. The building is one of which Marquette may well be proud. The approximate value of the structure is \$70,000 and its equipment is worth \$30,000.

Mercy Hospital at Jackson, under the auspices of the Sisters of Mercy, was opened for public inspection February 20. The building was formerly occupied by the old White Cross Sanitarium and has been thoroughly renovated and remodeled, the entire equipment being new.

Dr. E. V. Joinville of Detroit has just returned from a post graduate course in eye, ear, nose and throat work in the New York Post Graduate School, New York City. He is now associated with Dr. Geo. L. Renaud of Detroit.

Dr. Fred Townsend of Sault Ste. Marie will spend the balance of the winter in California, and while there will look around with a view of locating permanently if he is satisfied with climate and professional prospects.

Dr. J. B. Griswold of Grand Rapids was operated on January 28 for an infection of the gall bladder. The operation has been an entirely successful one. It was performed by Dr. A. E. Halstead of Chicago.

Dr. A. M. Wilkinson of Charlevoix, who was sued for malpractice and whose case was recently heard in circuit court, won out when Judge Mayne declared the prosecution had failed to establish a case.

Kalamazoo will have a foundling hospital completed and ready for use within the next two years. The Sisters of St. Joseph are behind the plan to build the new hospital.

The regents of the University of Michigan have authorized that five hundred dollars be added to the medical library fund, if on investigation, it was deemed best.

Dr. Robert Cary Jamieson, Kresge building, Detroit, has limited his practice to diseases of the skin and syphilis.

Dr. Geo. T. Britton of Kalamazoo, who underwent an operation recently, is reported as recovering satisfactorily.

Dr. Daniel G. Cook of Holland is a patient at Mayo Brothers' Hospital at Rochester, Minn.

Dr. P. W. Pearsall of Muskegon has moved to Cedar Springs where he will continue practice.

County Society News

ALPENA COUNTY

The inaugural banquet of the Alpena County Medical Society was held at the Elks Temple Jan. 21, 1915, at 6 p. m. The hosts on this occasion were Drs. W. A. Secrist, Leo Secrist and C. M. Williams. The guests were the wives of the physicians. Following the banquet the newly elected officers of the society—C. M. Williams, Pres.; J. D. Dunlap, Vice-Pres., and Otto Bertram, Secretary—accepted their respective offices.

The program of the evening was, with the exception of the inaugural address of the President, in the hands of the doctors' wives, and included a recitation by Mrs. J. W. Small, a vocal solo by Mrs. E. E. McKnight, and a presentation address by Mrs. A. E. Bonneville. Some of the friends of the retiring President, Dr. J. W. Small, in token of his efficient service, and as showing their appreciation of his modesty, had prepared a leather medal of generous proportions, which Mrs. Bonneville becomingly pinned upon his bosom.

The inaugural address of the President was a plea for greater efficiency in medicine. He recommended a particular specialty for the several physicians of the city, for which they should prepare by special study, so that the whole ground of scientific medicine would be covered, and would make co-operation among the physicians the word.

PROGRAM FOR 1915.

Entertain—W. A. Secrist, Leo Secrist and C. M. Williams.

PROGRAM.

Solo - - - - Mrs. J. W. Small
Address - - - - Mrs. A. Bonneville
Solo - - - - Mrs. E. E. McKnight
Recitation - - - - Mrs. S. T. Bell
Inaugural Address - - - C. M. Williams

February 18—8 P. M.

Office of Dr. Arthur Wilkinson.

- (1) Asepsis and Antisepsis - A. Bonneville
(2) - - - - F. J. McDaniels

Public lecture at Temple Theatre, 8 p. m.

Entertain—J. D. Dunlop, O. Bertram, James Eakins, R. A. R. Miller—Banquet in Walter Parker's honor.

Walter Parker, Detroit

- - - "The Conservation of Vision."

March 18—8 P. M.

Office Weather Bureau (Federal Building).

The Doctor and His Money.

- (1) How to Make It - - E. E. McKnight.
(2) The Weather Bureau - Frank Jermin.

April 15

Joint meeting with Alpena Bar Association.

May 20

Entertain—John Purdy, George Lister.

Guest—Reuben Peterson, President State Medical Society.

Clinic at Donald McRae Hospital—2 p. m.

Country Dinner 6 p. m.

The Doctor and His Money.

- (2) How to Get It - - J. D. Dunlop.
Address - - - - Reuben Peterson

June 17.

Entertain—E. E. McKnight, L. A. Gauvreau.

Program—The Doctor and His Money.

- (3) How to Invest It - - J. W. Small
Paper - - - - Geo. Lister.

July 15—Annual Picnic.

Committee in Charge—Mrs. S. T. Bell, Mrs. J. D. Dunlop.

August 19.

Entertain—J. W. Small, A. Komoraski.

Paper - - - - S. T. Bell

Paper - - - - George McKeen, Detroit.

September 16.

Entertain—Wm. Henryes, John Wilson.

Paper - - - - W. A. Secrist.

Paper - - - - John Purdy

October 21.

Entertain—A. E. Bonneville, D. A. Cameron.

Paper - - - - Wm. Henryes.

Paper - - - - Otto Bertram.

November 18.

Entertain—F. J. McDaniels, S. T. Bell.

Paper - - - - Leo Secrist

Paper - - - - D. A. Cameron.

December 16.

Annual Meeting.

Entertain—C. M. Williams, J. D. Dunlop, Otto Bertram.

OTTO BERTRAM, Secretary.

BAY COUNTY

On the 14th of December, 1914 our annual election of officers was held at the Hotel Wenonah.

The following officers were elected:

President—Dr. Hubbard Bradley.

Vice-President—Dr. Floyd H. Randall.

Secretary-Treasurer—Dr. A. F. Stone.

Board of Directors—Drs. Hubbard Bradley, Floyd H. Randall; A. F. Stone, A. W. Herrick, T. A. Baird and H. B. Morse.

Members of Legal Committee—Dr. R. Perkins.

Delegates to State Society—Drs. C. A. Stewart and A. G. Stone.

Alternates—Drs. Grosjean and Goodwin.

Dr. C. A. Stewart, the retiring president, entertained fifty-four members of the Society with an elaborate banquet. At the conclusion of the banquet Dr. Stewart made a very interesting speech on the condition of the society and introduced Dr. Guy L. Kiefer, the speaker of the evening, who gave a very interesting address on the relation of one physician to another. At the conclusion of his address a vote of thanks was given by the society to Dr. Kiefer for his address and a vote of thanks to Dr. Stewart for the entertainment provided for the society.

During the past two years our society has made great advances in attendance and in interest shown by the members and it might be well to state what has been accomplished and how it has been done.

Previous to the past two years the attendance has been anything but pleasing, averaging about fourteen. The society, through the courtesy of Dr. C. H. Baker, met twice monthly in his office. The attendance was small and the interest not very intense. Two years ago when Dr. G. Moore of Munger was elected president a change took place. The Program Committee worked hard and were well supported. In that year the attendance jumped to an average of twenty-four and during the past year the average attendance was twenty-six at the meetings which took place twice monthly. Now everyone looks forward to the meetings and is interested in the society. The society is flourishing and the meetings are always very well attended.

These results have been obtained as follows: First, everyone is notified three days before a meeting by postcard. Then late on the afternoon of the meeting all town members are called up by phone and reminded of the meeting. Secondly, we found that out-of-town men drew well and so about one-half of our speakers we get from outside the city. For instance, during the first year we had Dr. Angus McLean, Dr. Wesley Taylor, Dr. Buesser, Dr. C. G. Jennings of Detroit and Dr. H. Randall of Flint. We have had each year two clinics held by out-of-town men. For instance, in 1913, Dr. Andrew Biddle held a clinic on skin diseases and Dr. La Ferte of

Detroit held an orthopedic clinic. The material was worked up by local men in good shape before the arrival of the time for the clinic.

Two meetings a year are purely social in character, usually banquets, and at one of them the wives of the members are entertained. When we have an especially good meeting in prospect we try to invite Saginaw and Flint society members to be present, as in the case of Dr. Walter Connell of Queen University who read a paper on "Acidosis and Acid Intoxication" and was greeted by an audience of eighty-seven physicians from Bay City, Saginaw and Flint.

Local physicians giving papers are requested to confine the paper to their own experience, to give the subject to the secretary at least two weeks before the meeting and to use due diligence in preparing it. If a physician is asked to give a paper and agrees to do so and then without good reason disappoints the committee, he is not asked again by the committee. It has come to be considered an honor to be asked to give a paper and during the past two years local men have given many excellent addresses.

Now as to the place of the meetings. In that we think lies a great deal of our success. When out-of-town men are to be guests of the society the meetings are held at the Wenonah Hotel in the "Ordinary" or at the Bay City Club and a banquet is given at about \$1.00 per plate. This is also done at the two social meetings of each year.

At all other times the society meets at the home of some member of the society as his guest and after the routine business and the paper of the evening refreshments are served and a social half-hour is held. This I think has done more to create good feeling and to stimulate society interest than any other thing.

We are now embarked on our third year of large attendance and high interest and I might say that at our last meeting there was an attendance of over forty including several physicians from Saginaw and the surrounding towns. Dr. C. G. Darling of the University of Michigan read a paper on "Stomach Surgery."

If the above offers any hints to other societies we will be glad.

Dr. A. F. STONE, Secretary.

BRANCH COUNTY

At the annual meeting of the Branch County Medical Society the following officers were elected.

President—Samuel Schultz, Coldwater.

Vice-President—Carl Sears, Quincy.

Secretary-Treasurer—A. G. Holbrook, Coldwater.

Member Medico Legal Committee—W. H. Baldwin, Coldwater.

The annual meeting was held Jan. 19 at the parlors of the Presbyterian Church, Coldwater, and a 6 o'clock dinner was served, after which the business was transacted and the following program carried out:

"High Blood Pressure."

H. W. Whitmore.

"Observations Concerning Exophthalmic Goitre."

C. J. Harley.

"Disease of Prostate and Adnexa."

W. H. Baldwin.

A. G. HOLBROOK, Secretary.

EATON COUNTY

The Eaton County Medical Society met at Charlotte Jan. 28, 1915. President W. E. Newark presiding.

The business meeting was held in the forenoon and at this session there were eleven applications voted on and all were made members. Following this the society was entertained by the Charlotte Sanatorium for twelve o'clock luncheon, in honor of Drs. Camp and McNamara.

At the afternoon session the scientific program was carried out as follows. The first paper taken up, Insomnia—Its Causes and Treatment, by Dr. Camp. This was an exceedingly interesting topic for all, especially the general practitioner. The second paper on the program, Direct Blood Infusion (with illustrated charts) by Dr. McNamara. This subject was very well handled and interesting to all.

A vote of thanks was extended to Drs. Camp and McNamara, also the Charlotte Sanatorium.

G. W. BYINGTON, Secretary.

GENESEE COUNTY

Since our last report a number of interesting papers have been read before the society. Among them one by Dr. W. H. Graham of Mt. Morris on "Placenta Praevia." Dr. Graham's experience as a general practitioner, has been rather unique in the number of placenta praevia cases he has seen. In nineteen years he has attended eleven cases and reports one death. One case he has attended twice who gives a history of the same complication on another occasion, making a total of three times this patient has had placenta praevia. The one case that terminated in death had a severe hemorrhage before help was available.

Treatment consisted of tamponing the placenta against the uterine wall until the foetal head had descended sufficiently to stop the hemorrhage, or where indicated podalic version was performed. In none of these was surgical interference instigated, and there were no untoward results to the mother except the one mentioned which was due to the delay in obtaining medical attention.

Dr. A. M. Hume of Owosso, councilor for the sixth district, addressed the society on the topic "Why a Medical Society." The standpoint taken was for better organization, with special reference to better medical legislation.

On the evening of February 10 we were favored with the presence of Dr. Reuben Peterson of Ann Arbor. Following a dinner at the Elks Temple, Dr. Peterson read a paper entitled "Gall Stones Incidental to Pelvic Diseases." This paper brought out a most interesting discussion.

The Constitution has been so amended that in the future delegates to the State Society shall be elected one each year for a period of two

years, the purpose being to eliminate the possibility of the delegation to consist entirely of new men. By retaining a senior member it is believed that the county will receive a more efficient representation than by the one year term as heretofore.

R. S. MOORISH, Secretary.

GRATIOT COUNTY

The Gratiot County Medical Society met in Alma, Jan. 26. For a clinic Dr. Hirschman performed an operation with a local anesthetic for hemorrhoids. Following this Dr. Hirschman showed the causes of some cases of constipation with lantern slides. The doctor also talked on rectal fistula. After Dr. Hirschman left for an early train the regular business of the society was taken up at which Dr. E. C. Burt, of Ithaca, and Dr. J. L. Bender, of Bannister, were elected to membership.

E. M. HIGHFIELD, Secretary.

KALAMAZOO ACADEMY OF MEDICINE

Joint meeting of the Southern Michigan Triological Society and the Kalamazoo Academy of Medicine. Tuesday, February 9, 1915, Academy of Medicine rooms, Public Library building.

Luncheon at the Park-American at 12 noon.

Meeting called to order at 1:30 p. m.

1. Disturbances of Equilibrium Due to Labyrinthine Disease. Lantern slide demonstration.

Dr. George E. Shambaugh, Chicago, Ill.

Discussion opened by Dr. George Winter, Jackson; Dr. Ferris N. Smith, Grand Rapids.

2. Lesions of the Organ of Corti From Loud or Incessant Noises. Lantern slide demonstration.

Dr. Edward J. Bernstein, Kalamazoo.

Discussion opened by Dr. W. G. Bird, Flint; Dr. E. P. Wilbur, Kalamazoo.

There was a special meeting of the Academy on Wednesday evening, January 27. Dr. W. Wayne Babcock, of Philadelphia, gave a paper at this time on Cholecystitis. The secretary made a desperate effort to notify everybody of the meeting. Dr. Babcock has an international reputation and those members that failed to profit by his visit to the city have allowed another opportunity to improve themselves to slip through their fingers.

MARQUETTE-ALGER COUNTY

The January meeting of the Marquette-Alger County Medical Society was held in Marquette at the end of the month in order to accept an invitation to hold the meeting at the new St. Lukes Hospital on the opening day of the new Hospital, January 28, 1915.

The meeting was well attended. Inspection of the new hospital, built upon lines of modern hospital architecture, giving a maximum amount of sunlight to the rooms and halls. The wood work finished in

white paint, gives a cheerful, clean and sanitary impression. The equipment throughout is modern and complete. The hospital has accommodation for fifty-two patients. The modern idea of small wards (four beds) was noted. Some of the "private rooms" are a suite of two rooms with bath. On the third story two operating rooms and a silent obstetrical room with modern obstetrical bed attracted attention.

The February meeting of the Society was held February 17 at the Marquette City Hall. The City Commission kindly offers their room for the meeting of the Society. Papers on "Modified Smallpox" and "Emetin in the Treatment of Pyorrhea" were read respectively by Dr. A. V. Braden and Dr. C. N. Bottum. Discussion of papers was general, making the meeting interesting and profitable. After adjournment lunch was served at the Marquette Club.

MECOSTA COUNTY

The Mecosta County Medical Society met February 8 at the Club rooms in the Harwood block and roll call showed eight members present. The Society instructed the secretary to write our senator and representative in the legislature, endorsing the passage of the new health bill now before that body. Favorable action was also taken by the society toward the amalgamation of the Osceola-Lake Society and the Mecosta County Medical Society. Action on this resolution will be undertaken by the councilor, W. T. Dodge, of this district, and an expression from the members of the Osceola-Lake County Society will be obtained.

The program of the evening was in the hands of Dr. Collins H. Johnston and Dr. R. J. Hutchinson, both of Grand Rapids. Dr. Johnston read a paper on "Artificial Pneumothorax," which was greatly appreciated and awakened a great deal of discussion. Dr. Hutchinson's paper was upon the "Intraspinal Injections in Tetanus." A number of cases were reported and a good live discussion followed his paper.

The following officers were elected for the ensuing year:

President—W. T. Dodge, Big Rapids.

Vice-President—G. McAllister, Stanwood.

Secretary-Treasurer—C. F. Karshner, Big Rapids.

Delegate—L. S. Griswold, Big Rapids.

Alternate—J. B. Campbell, Stanwood.

Following the adjournment of the meeting the society repaired to the Sella Cafe where a good supper was in waiting and to which the members and guests did justice.

C. F. KARSHNER, Secretary.

SAGINAW COUNTY

The annual meeting of the Saginaw County Medical Society was held at the City Hall Feb. 11, at 8:30 p. m. The meeting was called to order by President McGregor, there being a large attendance.

An interesting case was presented by Dr. Powers for general discussion. A paper upon the subject "Gallstones Incident to Pelvic Disease" was given by

Dr. Reuben Peterson of Ann Arbor. The retiring president, Dr. Gregor, made a brief address, including an explanation of the new Harrison Act.

The election of the 1915 officers took place with the following results:

President—Jas. W. McMeekin.

Vice-President—A. Griggs.

Sec'y-Treas.—A. R. McKinney.

Directors—C. H. Sample, W. L. Dickinson and Robt. Gregor.

Medico-Legal Rep.—W. J. D'Reilly.

The members of the society are becoming more and more interested and enthusiastic over the meetings and a banner year is promised.

A. R. McKINNEY, Secretary.

ST. CLAIR COUNTY

The regular meeting of the St. Clair County Medical Society was held Jan 7, 1915 at the Elk Club.

After a supper, at which were present thirty-five members, the meeting was addressed by Dr. Udo J. Wile of Ann Arbor. His subject was "Skin Diseases."

The meeting took the form of a clinic, many patients being presented. All were interested and instructed by Dr. Wile's lucid way of diagnosing skin lesions. His clinic was interrupted occasionally by a lecture on the more rare skin diseases. After a very pleasant and profitable evening the meeting adjourned.

On February 4 the St. Clair County Medical Society held the first of their semi-monthly meetings. The meeting was held at the Elks Club and was largely attended.

The feature of the evening was a symposium on Typhoid Fever, conducted by Drs. Clancy, Morris and Frazier, all of Port Huron. The discussion was a very spirited one and reminded the membership of old times.

The next meeting will be held at the Elks Club, Feb. 18, at which a smoker and informal talk will be the entertainment. The plan of the society is to have the first meeting of the month addressed by some local man, while the second meeting will be given over to some man from outside.

R. K. WHEELER, Secretary.

ST. JOSEPH COUNTY

The January meeting of the St. Joseph Medical County Medical Society was held at White Pigeon, Friday, January 29, at 1 p. m.

Topics for Discussion.

1. Should the State Enact Eugenic Laws?

Discussion opened by Drs. Partlow and Andrews.

2. Should the State be Divided Into Health Districts, Not Exceed 30, With a Health Commissioner for Each?

Discussion opened by Drs. J. H. Moe and Dr. R. E. Dean.

Both of the above are before the Legislature this winter.

3. How Can the Good Health of the Public Schools and County Be Best Served?

Drs. Royer and Cameron.

The following officers were elected for the year 1915:

President—S. R. Robinson.

Vice-President—J. H. Moe.

Secretary-Treasurer—K. A. Rogers.

Delegate—Ray E. Dean.

Alternate—D. K. Andrews.

Member Medico-Legal Com.—D. K. Andrews.

WAYNE COUNTY

Monday, Jan. 25—General Meeting.

"Certain Factors Markedly Influencing the Morbidity and Mortality of Surgical Cases."

- a. From the Surgeon's Standpoint.

Chas. W. Moots, Toledo, Ohio.

- b. From the Anesthetist's Standpoint.

E. I. McKesson, Toledo, Ohio.

- c. From the Internist's Standpoint.

J. Willard Stone, Toledo, Ohio.

Discussion opened by Drs. H. K. Shawan, E. G. Martin, C. G. Jennings.

Meeting of Surgical Section, January 18, 1914.

This being a date for a regular meeting, several matters which could not be delayed were brought up for action.

Dr. Bell made a report from the Credit Bureau published in the Weekly of January 4. A flat rate of 25 per cent. is made for collecting, of which 20 per cent. goes to the collector and 5 per cent. to the maintenance of the office of the Bureau. It is understood that the Society will not be involved financially more than \$200 during the first year of the running of the Bureau.

The council reported in favor of establishing the Bureau and of the members who voted by postal card:

225 were in favor.

15 were against.

6 were non-comittal.

Dr. Don M. Campbell then moved that the Society accept the report of the Credit Bureau which was carried.

The following letter was received from Dr. Barrett, of the University of Michigan. All who wish to avail themselves of this excellent chance to hear one of our foremost surgeons will please inform the Secretary, Dr. Simpson, as

Secretary County Medical Society.

Dear Sir:

On behalf of the faculty of the Department of Medicine and Surgery, I have the honor of extending through you, to the Wayne County Medical Society, a cordial invitation to attend the annual celebration of Founder's Day of the Medical Department to be held at Sarah Caswell Angell Hall on the evening of February 22, 1915, at 8 p. m.

The address on this occasion will be delivered by Dr. William Mayo, of Rochester, Minn.

It would be helpful to the committee on arrangements if it might be known how many members may be expected to attend.

Albert M. Barrett.

Monday, Feb. 1—General Meeting.

"The Persistence of Spirochaetes in the Hearts of Apparently Cured Cases of Syphilis." With lantern demonstrations.

Prof. A. S. Warthin, U. of M.

Monday, Feb. 8—Medical Section.

Short, pithy (10 to 15 minute) talks on Syphilis, It's Modern Status:

(a) Introductory.

Dr. Charles W. Hitchcock.

(b) From Standpoint of the Dermatologist.

Dr. H. R. Varney.

(c) From Standpoint of the Internist.

Dr. W. W. Donald.

(d) From Standpoint of the Oculist.

Dr. Herman Sanderson.

Monday, Feb. 15—General Meeting.

Elucidation of the Water-Supply Situation of Detroit.

Mr. Rich, Sanitary Engineer State B. of H. Vote on Resolutions Offered by the Staff of Providence Hospital.

Discussion opened by Drs. W. H. Price, A. F. Jennings.

Customary dinner to Mr. Rich at 6:30 p. m.

Physician's Business Bureau.

The Board of Control is composed of: James E. Davis, Chairman; John N. Bell, Vice-Chairman and Manager; Howard Pierce, Secretary-Treasurer; W. H. Diebel, Walter W. Ford, R. L. Clark.

The Board of Control has adopted the following plan for each member to follow: The physician is asked to mail to each debtor a statement the first of each month. The end of the third month the physician mails a form letter to the debtor. These form letters are furnished to each member. The first ten are complimentary and after that a charge of forty cents a hundred. No charge will be made for any bill that is paid as the result of this letter. Ten days after this letter is mailed if the bill is not paid in full or part or any arrangement is made to pay the bill then a blank which accompanies the letter is filled out and mailed to the Bureau. The Bureau will then mail from the headquarters another form letter, which will be more drastic in nature, to the debtor announcing that unless this bill is paid in ten days it will be rated and turned over to our legal department. A charge of 10 per cent. will be made by the Bureau for any collections made as the result of the letter mailed to the debtor. After ten days the account if not paid is turned over to the collector who makes a house to house call. For any bills collected in this way a fee of 25 per cent. will be charged. If the collector fails, in a reasonable length of time, to collect the bill then if the doctor so wishes and it seems advisable to do so, we will turn the account over to an attorney for garnishment. The Bureau will soon be able to commence our collection department so dig up your old accounts

and have them ready in a few days.

The result the officers wish to accomplish is to educate the doctor and the laity. The doctor to use better business methods in connection with his practice as he is often to blame for the patient not paying. The patient we wish to educate to pay the doctor with the same promptness as he pays his other accounts.

If each member of this Bureau will show his appreciation by giving this his prompt attention it will be a great help (to those who are trying to give to the profession something it greatly needs.)

It is not the object of this Bureau to make any money above expenses and if, in time, we find we can cut down on the commission or we can offer something more to the members that will aid them in their work, that will be our course to follow.

Over one hundred physicians have already joined the Bureau and if you have not you should do so at once. Perhaps you wish to know more about the Bureau. If such be the case you may call on any of the officers for any information you may wish. The interest taken in this venture has been greater than was anticipated.

Book Reviews

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (Mayo Clinic) for 1911. Octavo of 603 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$5.50 net.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (Mayo Clinic) for 1912. Octavo of 824 pages, 219 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$5.50 net.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (Mayo Clinic) for 1913. Octavo of 819 pages, 335 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.50 net.

In these volumes there are imparted the clinical teachings of the Mayo Clinic. Each volume presents the year's advancements in technic and diagnosis and is based on the experience of this distinguished medical center. They are composed of all the papers that have been written and read by all the members of the Mayo staff.

It would be difficult to find a collection of papers that contain such a fund of valuable information or which can equal these for the care, thoroughness and completeness of their preparation. Editorially they may be well held up as models.

Their possession is essential to anyone desiring to remain abreast of medical and surgical progress. They are a work that will be referred to frequently by every owner.

STUDENTS' MANUAL OF GYNECOLOGY. By John Osborn Polak, M.Sc., M.D., F.A.C.S., Professor of Obstetrics and Gynecology, Long Island College Hospital; Professor of Obstetrics in the Dartmouth Medical School; Gynecologist to the Jewish Hospital; Consulting Gynecologist to the Bush-

wick, Coney Island, Deaconess' and Williamsburg Hospitals, Brooklyn, and the Peoples Hospital, New York; Fellow American Gynecological Society, etc. 12 mo., 414 pages, illustrated with 100 engravings and 9 colored plates. Cloth, \$3.00 net. Lea & Febiger, Publisher, Philadelphia and New York, 1915.

There is a refreshing quality of conciseness about this work in which, while overlooking no item of essential and definite knowledge in the field of diseases peculiar to women, the author carefully avoids excursions into the realms of obstetrics and abdominal surgery and avoids the consideration of the theoretical aspects of his subject.

The facts that modern medical science has definitely established are plainly set forth. The pathology of the various disorders is adequately considered, and emphasis is laid on diagnosis and treatment. Indications for surgical intervention are fully presented, and a step by step description of the usual gynecologic operations enables the student readily to assimilate the procedures and technic, or the practitioner to refresh his memory quickly on any doubtful point.

The plan and arrangement is orderly to a marked degree. The opening chapters deal with the physiology of the various genital organs, with puberty, menstruation, ovulation and menopause, with discussion of hygienic considerations.

Chapters on general gynecology diagnosis serve as an introduction to the detailed consideration of the various gynecologic operations to which the book is largely devoted. Under each disease the pathology, the symptoms, diagnosis and treatment are presented fully and in sequence. Salient facts are emphasized. The full directions for treatment are a feature of marked value, and embody the best present-day practice.

While the author is evidently familiar with the literature of this department, he has based his work largely on personal observation, and has made accessible in small compass all the essential data required by the student and all that is demanded of a working manual for the general practitioner.

OBSTETRICAL NURSING. A Manual for Nurses and Students and Practitioners of Medicine. By Charles Sumner Bacon, Ph.B., M.D., Professor of Obstetrics, University of Illinois and the Chicago Polyclinic; Medical Director, Chicago Lying-In Hospital and Dispensary; Attending Obstetrician, University Chicago Polyclinic, Hernotin, German and Evangelical Deaconess Hospitals. 12 mo., 335 pages, illustrated with 123 engravings. Cloth, \$2.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

Inclusiveness is one of the outstanding characteristics of Dr. Bacon's work. His great experience and unusual opportunities for observation in the handling of obstetrical cases have enabled him to present concisely and yet with most painstaking fullness all the information needed by the nurse to achieve the success in this important field that is conditioned on a full understanding and complete grasp of the minor niceties as well as the fundamentals.

Indeed, as stated in the preface, the needs of medical student and practitioner have been kept in

mind as well as those of the nurse. This is due as much to the author's belief that satisfactory results can only be obtained when the physician is fully posted on the approved minutiae of obstetrical nursing as to a realization that the exigencies of obstetrical practice may compel the nurse to act in place of the physician instead of as his assistant. Hence the section devoted to the handling of labor is more complete and detailed than might be expected in a work of this class.

The author nowhere loses sight of the primary purpose to develop efficiency in obstetrical nursing, but in his preliminary chapters presents a series of general observations of unique value to the nurse about to step from hospital surroundings to the changed conditions of private nursing.

The anatomical structure and functions of the pelvis, the genital and adjacent organs of woman, the development of the fetus and the relations of the child to its mother are clearly set forth. The physiological and pathological changes of pregnancy; the nursing technic before, during and after labor and of obstetrical operations; lactation; the care of the patients in both ordinary cases and in the rare forms of puerperal disturbance, are given detailed consideration. The chapters devoted to the early care of infants, infant feeding, and to diet, embody the best present day thought on these difficult subjects, presented by one peculiarly qualified to make it available to the nurse.

Nothing has been omitted which is essential to a full appreciation of the duties of the nurse in obstetrical cases, or to the full understanding of principles and procedure. Its clear straightforward diction and uninvolved presentation of the most approved modern methods constitute it an ideal text book for nurse or medical student and a not less useful handbook for the practitioner.

DISEASES OF THE BRONCHI, LUNGS AND PLEURA. By Frederick T. Lord, M.D., Visiting Physician, Massachusetts General Hospital and Channing Home for Consumptives; Instructor in Clinical Medicine. Harvard Medical School. Octavo, 605 pages. Illustrated with 93 engravings and 3 colored plates. Cloth, \$5.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The author's comprehensive grasp of the needs of the student and practitioner in a field which, perhaps more than any other, engages the attention of the average physician in general practice, and his ability to select from the mass of available material the essential facts and present them in usable form, are evident in every page of this work.

Dr. Lord has carefully studied the literature of the subjects considered, presenting the facts as established by leading modern observers and investigators, co-ordinating, elucidating and supplementing the knowledge thus assembled with the results of his personal observations and investigations in the wards and pathological laboratories of the Massachusetts General Hospital.

The result is a work which touches upon and makes clear the problems encountered in the treatment of diseases of the respiratory organs, and supplies the student with the basic knowledge in this broad field essential to further research, or the successful handling of these difficult and frequent

cases. Its usefulness to the practitioner can hardly be overestimated.

Extended consideration is given to conditions which simulate tuberculosis, and the essential points on which differential diagnosis may be based, are stated in detail. These observations are of surpassing value to the physician especially interested in the diagnosis of tuberculosis. The presence and significance of the tubercle bacilli in pleuritis and similar conditions is very fully treated.

The use of the bronchoscope receives more than passing mention. The importance of the early diagnosis of aspirated foreign bodies is emphasized, and the symptoms and signs are stated in detail. The amenability of abscess and gangrene of the lungs to surgical relief is stated, and, while the consideration as regards diagnosis is from a medical point of view, the indications for surgical intervention are comprehensively noted. Attention also is paid to the surgical aspects of empyema, actinomycosis and anchinococcus disease of the lungs. The importance of X-Ray examinations is not overlooked, and radioscopic findings are described.

The chapters dealing with the recognition of different types of pneumococci as a cause of lobar pneumonia; the results of animal experiments with the pneumococcus; metabolism in pneumonia; immunity; preventive inoculation; special methods of treatment, particularly by immune sera; the causes of hemoptysis and its recognition as a manifestation of tuberculosis, present all that modern science has accomplished in these fields in a manner that establishes its usefulness.

A valuable section deals with artificial pneumothorax in the treatment of pulmonary conditions, especially tuberculosis, and discusses conditions in which experimental puncture is dangerous. The etiology and pathology of each disease is stated fully and most clearly. Symptoms are presented in detail as are the diagnostic data, including the bacteriology and microscopic. Prophylactic measures, whenever possible, are suggested, and minutely complete directions for treatment close the discussion of each type of disease.

INFANT FEEDING, ITS PRINCIPLES AND PRACTICE. By F. L. Wachenheim, M.D., Attending Physician Sydenham Hospital and Mount Sinai Dispensary, New York City. 12 mo., 340 pages. Cloth \$2.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The author has accomplished the monumental task of carefully considering the enormously extensive literature of this subject and presenting in readily available form the ultimate conclusions of the world's leading authorities and the most successful present-day practice.

So great is the volume of the literature referred to, and so widely do the authorities differ, that in the resultant confusion the practitioner who seeks light in this most difficult and important field is sure to welcome this volume in which the author gives critical consideration to the various systems and formulas, rejecting those which fail in some important particular.

It is not, however, a review of the bibliography of Pediatrics, although Dr. Wachenheim is peculiarly

qualified for the task as well as for the broad consideration of the problems of infant feeding which his work affords. It is a very clear statement of the best modern thought and progressive practice, in which each conclusion is supported by indisputable evidence, and in a form which makes it immediately useful.

In the preliminary chapters a clear presentation of facts regarding infant digestion and metabolism opens the way to easy grasp of the detailed information. A point of interest is the author's demonstration of the extent to which the capacity of the infant's stomach is underestimated. Enlightening data is presented regarding protein, carbo-hydrate, salt and particularly fat metabolism. After reviewing fully the problems of breast feeding Dr. Wachenheim concludes that even in cases of serious digestive derangement, if the supply is adequate, the only safe procedure is to keep the child at the breast.

The bacteriology of milk; milk infection; the constituent elements of cow's milk and the essential difference between it and human milk; milk regulation and the feeding of whole milk, are treated at length. While the basis of the discussion of milk modification is highly scientific, the reasoning is so logical and the conclusions so clearly stated that the practitioner cannot but find this section useful when called upon to draft a series of formulæ, while the specialist will find herein much interesting new material based on the author's study and observation.

He rejects top milk method as inaccurate, as well as characterized by inherent defects. He also makes out a strong case against the percentage method, and recommends the Jacobi system of simple dilutions. The formulas presented are readily adaptable to the individual requirements of the case in hand. The cause, symptomatology, diagnosis and treatment of digestive and metabolic disorders are considered at length. A section on the feeding of older infants up to four years brings the work to a logical conclusion.

MODERN MEDICINE. Its Theory and Practice. In Original Contributions by American and Foreign Authors, Edited by Sir William Osler, Bart., F.R.S., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal; and Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia; Fellow of the Royal College of Physicians, London; formerly Associate Professor of Medicine in Johns Hopkins University, Baltimore. In five octavo volumes of about 1,000 pages each. Volume IV. Diseases of the Circulatory System; Diseases of the Blood; Diseases of the Lymphatic System; Diseases of the Ductless Glands; Vasomotor and Trophic Disorders. *Just ready.* Price per volume, cloth, \$5.00 net; half morocco, \$7.00 net. Lea & Febiger, Publishers, Philadelphia and New York.

The publication of Volume IV of Modern Medicine marks another important step towards the completion of this monumental work. Its appearance, while the impression of extraordinary usefulness created by its immediate predecessors is fresh in the minds of its fortunate readers, naturally

creates a receptive atmosphere which is amply justified by the scope of the volume; by the practical and exhaustive consideration afforded the various subjects and the editorial acumen evidenced in the assignment of space and the selection of authority best qualified to treat each of the subjects taken up. The distinguished editor has contributed more largely to this than to the preceding volumes.

The volume under consideration conforms to the high standard already established for this series in intrinsic value and in the perfection of typographical and illustrative details. It deals with the Disease of the Circulatory System, of the Blood, of the Lymphatic system, of the Ductless Glands, and with Vasomotor and Trophic disorders. In each of the five sections the reader is presented, fresh from the pen of the author, with a clear exposition of the best present-day thought and practice.

While the very wealth of valuable material comprised in this volume precludes any extended review of the individual contributions, among those which are worthy of special mention are the chapters on Arterial and Valvular Diseases by Sir William Osler; on Insufficiency and Dilatation by Alexander G. Gibson, M.D., F.R.C.P.; on Diseases of the Lymphatic Vessels and of the Lymphatic Glands by Aldred Scott Warthin, M.D.; on Pernicious and Secondary Anemia, Chlorosis and Leukemia by Richard C. Cabot, M.D.; on Diseases of the Adrenal Glands, the Pituitary Body and of the Thyroid Glands by George Dock, M.D.; on Hodgkin's Disease by Warfield T. Longscope, M.D., and on Vasomotor and Trophic Disorders by the Editor.

DIFFERENTIAL DIAGNOSIS. Presented through an analysis of 317 cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 709 pages 254 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.50; Half Morocco \$7.00

The first volume of this work dealt with the symptom of pain and eleven other common symptoms. In the present volume the same plan has been carried further. Nineteen other symptoms have been selected, analyzed and illustrated.

This is one of the most profitable and instructive books that we have ever read. It is a most realistic clinic of 317 cases, discussed from every practical viewpoint without the omission of a single possible detail that might tend to becloud a diagnosis. The case reports are not the features of the work, but are used to illustrate the author's text and diagnostic points.

It is a most important composition meriting universal approval and commendation. Every progressive physician should be eager to possess it.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, A.M., M.D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia. Fifth edition, thoroughly revised and enlarged. Octavo of 856 pages with 272 illustrations, 27 of them in colors. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$4.50 net.

This volume, thoroughly revised, is the fifth edition of a work that is recognized as a standard reference

and text book. The new chapters added are: Vaccine Therapy's Lactic Bacteriotherapy in Atrophic Rhinitis; Salvarsan in the Treatment of Syphilis of the Upper Respiratory Tract; Sphenopalatine Ganglia Neuralgia; Negative Air Pressure in Sinus Disease; Chronic Hyperplastic Ethmoiditis; Congenital Insufficiency of the Palate; Lactic Bacteriotherapy in Pharyngeal Affections. The chapter on the tonsils has been thoroughly revised and the surgical technic brought up to date. There are a number of new illustrations. In subject matter, the style of discussion, clearness of description, illustrations and fullness of treatment there is nothing left out that a reader might desire. The work is thus a splendid one for practitioner and specialist. Altogether it is a most useful and practical text book. We do not reserve any hesitation in recommending it.

DIAGNOSTIC AND THERAPEUTIC TECHNIC. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, M.D., Clinical Professor of Surgery, New York Polyclinic. Second edition, thoroughly revised. Octavo of 834 pages, with 860 illustrations. Philadelphia and London: 1915. Cloth, \$5.00 net; Half Morocco \$6.50 net.

The author and publishers present the profession with a second revised edition of a most useful and practical volume.

It is a work that describes general and therapeutic diagnostic methods and gives a most complete elucidation of those measures employed in diagnosis and treatment of diseases affecting special regions and organs. Nothing is left to the reader's imagination. So many of our text books treat exhaustively the larger problems of medicine and surgery and omit these so-called minor procedures which a physician may be called upon at any time to perform. If not fully familiar with the methods he is forced to search through many volumes in order to obtain the steps in technic. This volume supplies him with all the needed details under one cover, in a clear detail with nothing left for the reader's imagination. It is a work that should be in every physician's library.

To further illustrate its value we publish the following synopsis of Chapter II, which is but a random selection of the twenty-two chapters covered in a like thorough manner: Local Anesthesia; advantages and disadvantages, methods of producing, drugs employed, preparation of the patient, conduction of an operation, local anesthesia by cold, surface application, infiltration, endo and perineural infiltration, practical application, operations on inflamed tissues, Bier's venous anesthesia.

We know of no other work so complete on the subject nor so essential an aid to one in active practice. As a working reference for every doctor we commend it because we believe there is no better.

A PRACTICAL TEXT-BOOK OF INFECTION, IMMUNITY AND SPECIFIC THERAPY with special references to immunologic technic. By John A. Kolmer, M.D., Dr. P. H., Instructor of Experimental Pathology, University of Pennsylvania with an introduction by Allen J. Smith, M.D., Professor of Pathology, University of Pennsylvania. Octavo of 899 pages with 143 original illustration, 43 in colors. Phila-

delphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net, Half Morocco, \$7.50 net.

This timely and desirable compilation of facts and theories pertaining to Infection, Immunity and Specific Therapy may be best described to our reader by quoting direct from the author's preface:

"For the past twenty years the science of immunity has been one of the most progressive and most active branches in the department of medicine. An enormous literature has accumulated; many new terms have been coined, and numerous theories have been adduced; indeed, the subject has acquired an aspect of complexity that is confusing to those not especially interested or engaged in this work.

The purpose of this book is a threefold one, namely:

1. To give to practitioners and students of medicine a connected and concise account of our present knowledge regarding the manner in which the body may become infected, and the method, in turn, by which the organism services itself against infection, or strives to overcome the infection of it should occur, and also to present a practical application of this knowledge to the diagnosis, prevention and treatment of disease.

2. To give to physicians engaged in laboratory work and special workers in this field a book to serve as a guide to the various immunologic methods.

3. To outline a laboratory course in experimental infection and immunity for students of medicine and those especially interested in these branches.

1. The subject of infection is intimately connected with that of immunity, and this is especially emphasized in those diseases for which a specific therapy exists, for a knowledge of the nature of the infection is of paramount importance in controlling the dosage and indicating the method of administration of a specific therapeutic agent. By describing principles and technic with considerable detail, a special effort has been made to render Part IV of this book of particular value to practitioners of medicine.

The day is past when the physician and surgeon can relegate the things of immunity entirely to the laboratory. Diagnostic methods and reactions and the field of specific therapy—vaccin, serum, and chemo—are subjects to such practical importance that it is obvious that the physician and the student of medicine can no longer be merely mildly interested onlookers. The physician who injects salvarsan, a serum, or a vaccine, or who uses a diagnostic reaction, must be prepared to explain to his patient the nature of the therapy he employs and the significance of the reaction. This he can do only by equipping himself with the knowledge of the fundamental factors of immunity, or he will be forced into the position of a passive transmitter of ideas entirely beyond his own knowledge.

2. An effort has been made to include data of both practical and theoretic importance, and in some instances tests are described that are more of theoretic than of practical import, especially in research work.

It is obviously impossible, in a single volume, to include the very large number of tests and modifications that have been advocated from time to time, and, as a matter of course, most attention has been given those methods that have been shown to be of

practical value or that give promise of becoming so. So far as possible original methods are given, these being, in the larger proportion, more or less important modifications devised as the result of my own experience in hospital and teaching laboratories.

The technic of the various tests and reactions is described in great detail, thus tending the better to secure accuracy, simplicity and definiteness and to serve as an opening wedge to those about to enter this special field.

3. The value of the experimental method in the teaching of certain branches of medicine is now well recogreognized. In no department, however, is this method of greater value than in the study of infection and immunity. A working knowledge of these subjects should be well versed in at least their primary principles and practical applications in the prophylaxis, diagnosis and treatment of disease.

The laboratory course given in Part V is based upon the course given by me in the Laboratory of Experimental Pathology at the University of Pennsylvania, and in the laboratories of the Philadelphia Polyclinic and College for Graduates in Medicine. In including them in this volume I am carrying out my original plan, for in many of the experiments the technic of a given test is described, making a separate book devoted to this part of the subject unnecessary. Future experience may, however, show the necessity of having this portion of the book form a separate laboratory manual. I shall appreciate the opinions of educators who may have occasion to consult the course herein outlined.

Since the larger portion of our knowledge of infection and immunity has been gained from studies upon the lower animals, it is not strange that these were early and directly benefitted by a practical application of this knowledge to the prophylaxis, diagnosis and treatment of many of the diseases to which these animals are subject. I have, therefore, included in this volume an account of those immunologic diagnostic reactions and applications of specific therapy that have a direct bearing upon veterinary medicine.

No attempt has been made to cover all literature references on the subject. An effort has been made to state well-established facts concisely, and, in the case of the more recent subjects, to give the principal references to the literature. I have drawn largely from German, French, and English sources, and have endeavored, wherever possible, to give proper and due credit to each author. In order to keep the work up to the times, I would ask the authors of reprints on immunologic subjects to send me copies."

The author's plan is admirably carried out. The work is destined to become well-nigh indispensable to physicians, health-officers, sanitariums and laboratory worker.

SCOPOLAMINE-MORPHINE ANESTHESIA, by Bertha Van Hoosen, M.A., M.D. Chicago and A Psychological Study of "Twilight Sleep" Made by the Giessen Method by Elizabeth Ross Shaw, Chicago. Cloth, 216 pages. The House of Manz, Publishers, Chicago, Ill.

The forepart of this volume is a monograph setting forth, but in part, the author's personal experience with the use of Scopolamine-Morphine in some 5,000 surgical cases and 100 cases

of obstetrics. The cases extend over a period of ten years. Statistical data is well compiled and certain features are illustrated by case reports. The method of administration is completely described. Dispersed throughout the text will be found the author's personal views on the subject. It is an interesting effort.

Still, on the whole, the reviewer lays the book down unable to thrust aside the idea that it is but the viewpoint of one individual, stimulated by personal enthusiasm and we remain persuaded to look upon the value of this anesthetic adjunct as of questionable value. Dr. Van Hoosen's surgical results are commendable but we hesitate to ascribe them as due, to a large extent, to the use of Scopolamine-Morphine.

As to the 100 cases of so-called "Twilight Sleep," their report is valuable. Further than that we are not disposed to comment either pro or con. The psychobiological study of the one case is complete and instructive, but one finishes the report with a feeling that "Twilight Sleep" is a misnomer and the term should be abolished from professional nomenclature.

A rather complete bibliography is given.

The volume is one that may be read with interest and profit and enables the reader to pass a better opinion upon the desirability or not of utilizing this recently resurrected drug. We rather eagerly look forward to a new edition containing a broader viewpoint and final conclusion. The book is assured a welcome by many interested readers.

Miscellany

Peebles Epilepsy Cure.—The Dr. Peebles Institute of Health, Ltd., Battle Creek, Mich., advertises an "epilepsy cure." The "treatment" was examined in the A.M.A. Chemical Laboratory. It consisted of two bottles, "No. 1" and "No. 2." "No. 1" was a liquid containing extractive matter, had an odor resembling celery and valerian and contained 11.40 per cent. absolute alcohol. "No. 2" was a liquid, having a valerian-like odor and containing as essential constituents ammonium bromide and potassium bromide, equivalent to 16.8 gr. potassium bromide per fluidram, the recommended dose. Thus, the treatment consists essentially of bromides and is, in no sense, a cure and not free from danger (*Jour. A.M.A.*, Jan. 30, 1915, p. 455).

G. G. Phenoleum Disinfectant.—This is a disinfecting solution sold by the G. G. Phenoleum Co., New York. It was found ineligible for New and Nonofficial Remedies by the Council on Pharmacy and Chemistry because unwarranted claims were made for it and because the disinfectant power was not stated on the label, as required by the Council (*Jour. A.M.A.*, Jan. 30, 1915, p. 456).

Phytin and Fortossan.—Phytin, sold by A. Klipstein & Co., New York, is an organic phosphorus compound, the acid calcium-magnesium salt of phytinic acid. The Council on Pharmacy and Chemistry rejected Phytin because unwarranted and exaggerated therapeutic claims were made for this

product, based on the entirely undemonstrated assumption that phosphorus is assimilated only from organic combination, that a long list of diseases are due to deranged phosphorus metabolism and that such diseases are benefitted or cured by Phytin. The Council also refused recognition to Fortossan, a preparation of Phytin and sugar of milk (*Jour. A.M.A.*, Jan. 30, 1915, p. 456).

Intestinal Antiseptic W-A.—The Abbott Alkaloidal Co., advertises intestinal antiseptic W-A as "A scientifically blended and physiologically adjusted mixture, of the pure sulphocarbolates of calcium, sodium and zinc, grs. 5, with bismuth subsalicylate, gr. ¼ and aromatics." The Council on Pharmacy and Chemistry refused recognition to this proprietary because the formula does not indicate the proportionate amounts of the several sulphocarbolates, because the name is therapeutically suggestive and an invitation for the use of the preparation by the public and because exaggerated therapeutic claims are made for it. The claims which are made are most extreme; they contrast sharply with the low esteem in which the phenolsulphonates (sulphocarbolates) are generally held. It does not appear that the claims have been substantiated by proper evidence (*Jour. A.M.A.*, Dec. 19, 1914, p. 2247).

Theobromine versus Caffeine.—Lester Taylor finds that caffeine gives a moderate relief from the cardiac symptoms in myocardial insufficiency, but also causes the constant appearance of distressing nervous and gastric symptoms. He further finds that the clinical diuretic action of caffeine may be better performed by large doses of theobromine sodium salicylate, N. N. R. without the unpleasant side-effects (*Arch. Int. Med.*, Dec., 1914, p. 769).

Prunoids.—Prunoids (Sultan Drug Co.) are tablets said to be "Made of Phenolphthalein (one and one-half grains in each), Cascara Sagrada, De-emeticized Ipecac and Prunes." The A.M.A. Chemical Laboratory reported that Prunoids appeared to be essentially a phenolphthalein tablet. The Council on Pharmacy and Chemistry held Prunoids in conflict with its rules because the statement of composition was incomplete and therefore meaningless, because unwarranted therapeutic claims are made for them, because the name "Prunoids" does not indicate the chief constituent but gives the false impression that they depend on prunes for their effect and because it is irrational to prescribe a well known drug under a misleading name (*Jour. A.M.A.*, Jan. 2, 1915, p. 71).

Radio-Rem.—The Radio-Rem outfit is advertised by Schieffelin & Co. It is said to produce water charged with radium emanation by inserting rods stated to be coated with radium sulphate in water. Not only is the internal use of radium emanation without proved value, but the amount of emanation said to be produced by the apparatus is far below the amounts generally used by those who believe in its efficacy. It is claimed that this outfit supplies a substitute for natural mineral water; but there is no proof that the value of mineral waters depend on contained radium emanation (*Jour. A.M.A.*, Jan. 30, 1915, p. 456).